



The
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THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment, and
Administration of Hospitals, Sanatoriums, and Allied Institutions,
and to their Medical, Surgical, and Nursing Services*

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MEAT HYGIENE IN THE UNITED STATES—ITS VALUE AND SCOPE.

A Seven-Year Study of United States Government Meat Inspection—Slaughtering and Preparation of Meat Foods Under Scientific Control—Importance of a Sound and Wholesome Meat Supply Assured in Purchase of Products Marked "U. S. Inspected and Passed"—States and Municipalities Do Not Realize the Importance of Thorough Meat Inspection.

By W. H. LIPMAN, M. D., CHICAGO.

(This paper was prepared at the urgent request of THE MODERN HOSPITAL, because it believes that proper, scientific inspection and the proper treatment of meat is one of the most important factors in the health of the people. Dr. Lipman, chief medical officer of Swift & Company for the past nine years, is better qualified to write on this subject from first-hand knowledge, and because of his capacity to evaluate its importance from the standpoint of the public health, than almost any other man in the country.)

IN these days, when sanitation and hygiene are uppermost in the mind of the public, and new measures of relief—legislative, economic, and scientific—are springing up daily, a brief survey of the measures employed in the care and protection of meat, the most important of all of our foods, seems timely.

That man has been a meat-eater, if not always, at least for countless ages, is vouchsafed by anthropologists. The construction of our teeth and digestive organs, we are told, convicts us of flesh-eating as easily as the jam on his fingers and lips convicts Johnnie of a visit to the pantry without the consent of "mamma." Our canine teeth speak with eloquence of steaks and roasts consumed without the aid of knives and forks, and our gastric juice is so meat-hungry it would gladly feast cannibalistically on our stomachs were it not for the alkalinity of the blood neutralizing the hydrochloric acid and the "vital" protection afforded by the cells of the lining of the stomach. As if that were not sufficient, paleontologists claim to have conclusive evidence that our ancestors banqueted in their caves on the flesh of animals and fish.

It is pretty well established that if man is to meet the more and more arduous tasks imposed on his brain and brawn by civilization—in fact, if civilization itself is to march on—man must re-

main an omnivorous feeder, at least in temperate zones. Present-day mankind needs concentrated, enticing fare, with not too much indigestible ballast, that will give energy, daring, endurance, and resistance, as well as rebuild the tissue waste. Such a diet can be obtained only by judiciously mixing vegetable and animal foods. A purely vegetable diet falls just as short of our needs as one made up wholly of animal foods. The first may make us plump and rosy, but it leaves us without resistance to disease and soon disarranges our digestion, and the second would finally make us sluggish and lazy.

It is true that some savage tribes live almost entirely on plants, leaves, and fruits, and the Esquimo subsists on animals and fish, but these cousins of ours have not contributed very heavily to the arts and literature, nor are their names very closely linked with many of the great discoveries in science.

Some carnivorous enthusiasts claim to be able to show a direct parallelism between the achievements of a people and its per-capita consumption of meat, and the vaunted greatness of our own country has been ascribed to our high meat consumption, which is greater than that of any land save Australia. The United States Department of Agriculture gives our per-capita consumption per annum, based on the 1910 census, as follows:

Beef	80.34 pounds.
Veal	7.54 pounds.
Pork (excluding lard).....	67.61 pounds.
Mutton and lamb.....	6.58 pounds.
Goat meat .....	.13 pounds.

Total meat	162.20 pounds.
Lard	10.06 pounds.

Total172.26 pounds.

Bauer believes that the benefit usually ascribed to a change from a mixed diet to one purely vegetarian is mainly due to giving up of bad habits formerly indulged in.

Our forefathers in the very early times seem to have been rather careless in the selection of their meat, for history credits the first attempt at what might be termed meat hygiene to the Egyptians. The hog was not eaten by those people, because "it produced bad humors," and the bovine animal was considered closely related to certain deities, and therefore too sacred to be used as food. When Moses led his people from the land of Pharaoh he borrowed the Egyptian food laws, which he later elaborated to the extent of prohibiting the use of emaciated, injured, and "died" animals. The Mosaic law was also selective in that it designated certain animals as fit for food (ruminants, domestic fowls, birds, except birds of prey, and fish having fins and scales), while solipeds, hogs, etc., were considered unclean. The Talmudists enlarged on these laws and prescribed specific methods of slaughter. The Greeks forbade the use of lambs that had not been shorn once, and the Romans looked on goat meat as unhealthful.

The meat markets of early Athens were under police supervision, and well-equipped abattoirs with meat inspection existed in early Rome (Ostertag). The early popes issued food edicts, such as the prohibition of the use of horse meat and the consumption of raw bacon and pork. There are no authentic records of meat inspection among the ancient Gauls and Germans and in northern Europe (Edelman). From time to time the Church and civil authorities issued meat restrictions, which referred mainly to emaciated, immature, and "died" animals and "pearl disease."

What may be termed the first scientific food restrictions appeared at the end of the eighteenth century, and were based on the medical opinion of those days, but, as can readily be understood, the diversity and uncertainty of the prevailing medical thought hampered rather than enhanced the development of meat inspection. When the causes and means of spreading of many of the infectious diseases became known as a result of the discovery and development of bacteriology, the need of scientific supervision of the meat supply became apparent, and today practically every civ-

ilized country has a more or less thorough control over it.

Meat may become dangerous as a food in three ways:

1. Animals may be affected with a disease communicable to man, or may be so changed as a result of a noncommunicable disease as to become objectionable.

2. It may contain noxious substances as a result of putrefactive changes.

3. It may be the medium for carrying of bacteria without becoming changed itself.

The first condition can be remedied only by thorough ante- and post-mortem examination by trained pathologists and veterinarians, and the other two can be obviated by efficient means of preservation.

By far the most important condition found post-mortem is tuberculosis. Everyone who has studied the question of tuberculosis is familiar with the controversy that has been waged since Robert Koch announced in 1901 that the possibility of man becoming infected with animal tuberculosis is so remote as to make precautions unnecessary. He placed the danger from the animal form as equal to the danger from hereditary transmission of human tuberculosis, which is tantamount to saying that it is nil. We all know the storm of opposition that Koch's dictum called forth, and which finally culminated in the practically unanimous opinion of today that man can be infected with the bovine bacillus, although much less readily than with the organism of the human type.

Even the most ardent supporters of the identity of both forms of the disease agree that the greatest, if not the only, source of infection of human beings with the animal form is milk. This is proven by the fact that the greatest number of cases in which the bovine bacillus was found occurred in children. While milk was repeatedly found to be the medium of infection in children by clinicians in this country and Europe, one will search the literature in vain for a case in children or adults that can be attributed to meat. But because experiments on human beings to determine that point are obviously impossible, and because tuberculosis is the most common disease of cattle and hogs, the importance of recognizing that disease becomes apparent.

The first Federal meat inspection law in the United States was passed in 1890 by Congress, and provided for inspection at time of packing of bacon and pork intended for export. This law was amended repeatedly. In 1906 Congress passed a law which gave power to the secretary of agriculture to make ante- and post-mortem inspection of all cattle, swine, sheep, and goats that enter in-

terstate or foreign commerce, and reinspections whenever required. In addition to the inspection, the law provided for the destruction of all carcasses and parts that were found unfit for food. It also prescribed certain sanitary requirements for establishments where meat and its products are prepared, as well as the supervision of all processes of meat manufacture. Accordingly regulations were formulated which were to determine when a carcass may or may not be passed for food, and these regulations, with slight modifications, are still in force. They are based on modern authoritative scientific opinion on animal pathology and the etiology of disease, and are not only equal to those of European countries from the standpoint of stringency and thoroughness of execution, but are more rigid than those of many of them.

A comparison of the regulations of the leading European countries will soon disclose the fact that enormous quantities of meat and its products are annually condemned in this country under United States Government inspection, especially on account of certain forms of limited tuberculosis that would be passed for food in many European countries, either under declaration as meat of inferior quality or after heat sterilization. These statements are made unhesitatingly, and they are not based on a mere perfunctory digest of figures and reports. They are the result of a study of Federal meat inspection covering several years as it is conducted in the great packing houses in Chicago and those of the western packing centers.

From time to time some person arises who considers it his or her duty (usually self-imposed) to criticise the United States Government meat inspection. It is declared inadequate and unscientific, and devoid of hygienic value. When these attacks are investigated, they are found to emanate from persons not possessed of the necessary scientific training and experience to pass on this important subject intelligently and impartially. It is found that these critics, in their eagerness to criticise, consider it unnecessary to quote the regulations in their entirety or describe the inspection as it is actually performed, but conveniently omit everything that does not lend itself to their purpose.

In 1907 the secretary of agriculture appointed a committee of scientists, not in any way connected with the Federal meat inspection service, to study and report on the regulations governing it. The committee was composed of the following: Dr. Wm. H. Welch, professor of pathology, Johns Hopkins University, Baltimore; Dr. L. Hektoen, professor of pathology, University of Chicago; Dr. Joseph Hughes, president of the Chicago Veterinary College; Dr. V. A. Moore, professor of com-

parative pathology, Cornell University; Dr. Leonard Pearson, dean of veterinary department, University of Pennsylvania; Dr. M. J. Rosenau, director of hygienic laboratory, United States Public Health and Marine Hospital Service; Dr. Chas. Wardell Stiles, chief of division of zoology, hygienic laboratory, United States Public Health and Marine Hospital Service. The committee's opinion of the regulations is well illustrated by the following statement, quoted verbatim from its report:

"In general, the regulation in question fully safeguards the public health in so far as the points contained in regulation 15 are concerned. If there be any general error in the regulation, this is in favor of the public rather than in favor of the butchers and packers. Most of the paragraphs of regulation 15 are indorsed without comment. Several sections (for instance, the sections on hog cholera, swine-plague, actinomycosis, tuberculosis, and tapeworm cysts) could be made less stringent without any danger to the health of the consumer."

Anyone familiar with the high scientific attainments and unimpeachable integrity of the personnel of the committee will readily understand the weight and importance of its report. Whatever changes have been made in the regulations since the passage of the law of 1906 have been made either on the recommendations of the committee mentioned above or in accordance with new ideas governing animal pathology.

The consensus of modern thought on the spread of tuberculosis is gradually crystallizing in the opinion that infection takes place in childhood (at a period when little, if any, meat is consumed), and lies dormant until such time in adult life when the body resistance becomes low, permitting the awakening and development of the disease. This mode of infection lends more strength to the proposition that meat rarely, if ever, becomes a medium for the transmission of tuberculosis to man.

No country is rich enough to be able to afford to destroy sound meat food on purely sentimental grounds. The selection of the sound and healthful from the objectionable must be made in the light of cold, searching scientific facts, and judgment must not be swayed either by sentiment or economic advantage.

An idea of the importance and extent of Federal meat inspection can be gained from the following tables, taken from the report of the chief of the Bureau of Animal Industry for 1912:

POST-MORTEM INSPECTIONS, FISCAL YEAR 1912.

Kind of animals.	Passed for food.	Condemned.
Cattle	7,447,227	50,363
Calves	2,233,984	8,927
Sheep	14,192,420	15,402
Goats	63,898	84
Swine	34,689,866	129,002
Total	58,657,395	203,778

DISEASES AND CONDITIONS FOR WHICH CONDEMNATIONS WERE MADE ON POST-MORTEM INSPECTION, FISCAL YEAR, 1912.

Causes of condemnation.	Cattle.		Calves.		Swine.		Sheep.		Goats.	
	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.	Carcasses.	Parts.
Tuberculosis	35,273	51,576	276	289	42,267	314,581	3	.....	.....	.....
Actinomycosis	726	71,665	7	345	.....	.....	.....	.....	.....	.....
Caseous lymphadenitis .....	.....	.....	.....	.....	.....	.....	1,597	.....	18	.....
Hog cholera .....	.....	.....	.....	.....	56,931	.....	.....	.....	.....	.....
Tumors and abscesses	190	4,840	17	165	1,654	2,247	122	31	3	1
Septicemia, pyemia, and uremia	1,468	.....	326	.....	8,607	.....	780	.....	6	.....
Pregnancy and recent parturition	560	.....	.....	.....	71	.....	70	.....	1	.....
Immaturity .....	.....	.....	4,511	.....	.....	.....	.....	.....	.....	.....
Pneumonia, pleurisy, enteritis, hepatitis, peritonitis, metritis, etc.	3,092	.....	841	.....	8,997	.....	2,614	.....	12	.....
Icterus	40	.....	37	.....	2,975	.....	1,308	.....	2	.....
Texas fever	381	.....	806	.....	.....	.....	.....	.....	.....	.....
Injuries, bruised, etc.	1,892	813	429	69	728	5,916	725	113	3	.....
Sexual odor .....	.....	.....	.....	.....	2,456	.....	.....	.....	.....	.....
Asphyxiation .....	.....	.....	.....	.....	967	.....	32	.....	1	.....
Emaciation	5,722	.....	1,574	.....	1,568	.....	7,542	.....	29	.....
Cysticercus	359	1,944	3	3	9	.....	197	44	1	.....
Miscellaneous	660	3,945	100	341	1,772	1,248	412	3,683	8	.....
Total	50,363	134,783	8,927	1,212	129,002	323,992	15,402	3,871	84	1

In addition to the foregoing there were tanked animals found dead or in a dying condition as follows:

Cattle	762
Calves	983
Swine	44,778
Sheep	5,162
Goats	10

Total 51,695

Such figures are significant and important. They prove that the inspection is more than an academic procedure and a political subterfuge, as has been charged. They prove to the careful and unbiased observer that our meat foods, when passed by the Government, are as healthful and wholesome as science can make them. They prove that the inspection is a tremendous hygienic force and a factor of inestimable value in preserving public health.

The question has been asked why the Government reports do not show carcasses condemned on account of such conditions as anthrax, rabies, tetanus, black-leg, etc., although they are included in the regulations. The answer is very simple: anyone familiar with these diseases will readily understand that an animal affected with any one of them can never reach the market. It would either perish or it would be destroyed by the local state veterinary authorities.

There is nothing mysterious or hidden about the inspection. The regulations are available to anybody who will apply to the Government for them, and anybody can at any time enter the establishments where inspection is conducted and follow it minutely. Anyone can study the method and technic used by the inspectors and see the carcasses as they are either passed or condemned, and can follow those that have been condemned to the tanks into which they are placed for destruction.

The disposition of carcasses is made by trained veterinarians graduated from veterinary medical schools, who have also passed a civil service ex-

amination before being admitted to the Government service. The Government prescribes certain requirements of equipment and teaching with which veterinary schools must comply if their graduates are to be admitted to examination for the position of veterinary meat inspector. At present the inspection service includes 3,453 employees, 1,063 of whom are graduated veterinary surgeons, 965 men experienced in meat packing, the remainder being composed of stock examiners, inspectors' assistants, etc.

The post-mortem inspection commences immediately after slaughter, and every part is examined as soon as it is brought to view in the process of dressing by the butchers. It includes a careful observation of the whole carcass and viscera for pathologic changes, and palpation and incision of the more common sites of disease, especially the lymphatic glands. For convenience of description, the technic may be briefly divided as follows:

1. Inspection of the head. Palpation and incision into the post-pharyngeal, submaxillary, and parotid lymphatic glands and salivary glands; incision into muscles of mastication in cattle and calves for cysticercus, examination and, if necessary, incision of tongue; general observation of head as a whole for deformities, etc.

2. Inspection of viscera. Palpation and incision into bronchial and mediastinal glands and lungs; incision of heart for cysticercus; incision of portal, hepatic and mesenteric glands; observation, palpation, and incision, if necessary, of liver and spleen; close observation of all abdominal organs for changes in color, size, consistency, the presence of animal parasites, abscesses, inflammations, etc.; examination of uterus and adnexa.

3. General survey of entire carcass. Close observation of the serous membranes after the carcass is split; examination of all parts for changes in color, state of nutrition, deformities, abscesses, new growths, injuries, etc.

4. Special examinations. Some animals are subject to affections peculiar to the species or locality, as Texas fever in cattle and calves, caseous lymphadenitis in sheep, hog cholera, etc., and a special search is therefore made for them in the carcass and organs involved.

The above constitutes the preliminary examination, and, if some abnormality of the slightest de-



Fig. 1. Examination of head and neck glands of hogs.

gree is found in any part or organ, a tag is placed on the carcass and viscera, reading "U. S. Retained," and the carcass, with all the viscera, is removed to the so-called "final room" for final examination. Here the examination is much more comprehensive than the preliminary one. All the lymphatic glands of the body which may be the seat of disease are exposed and incised. The viscera are examined minutely, as well as the whole carcass. When a carcass or part is condemned, it is immediately stamped with ink in numerous places, "U. S. Inspected and Condemned," and is either conveyed to the tank for destruction at once or placed in the "condemned room" and destroyed as soon as practical.

By destruction is meant that the condemned carcass or part is placed in a tank, together with denaturing material; the tank is sealed by a Government inspector and the contents allowed to render by steam under a temperature of 288 degrees F. under high pressure for no less than six hours, and no one but the inspector is allowed to open the seal of the tank. At the end of this

process all the tissues have been reduced and dissolved, leaving nothing but liquid fat and a residue composed of mineral and proteid matter. The denaturing material used so changes the fats and other tissues as to make their use for any other but technical purposes impossible.

Those carcasses that are found to be normal on preliminary examination are marked "U. S. Inspected and Passed," and are sent to the "chill room." That does not, however, mean that they have passed out of the jurisdiction of the inspector; if at any time in the chill room, shipping room, or anywhere else a carcass or part is found unwholesome, it is condemned.

An ante-mortem inspection is made in the yards and in the pens of the establishment. It is obvious that such an inspection, which may be termed clinical, cannot be conclusive; it can suspect only abnormal conditions. When an inspector finds an animal that does not look normal to him, he attaches a metal tag to its ear, reading "U. S. Sus-



Fig. 2. Examination of pleural and peritoneal surfaces of hogs.

pect." An animal suspected in that way must be killed apart from the rest, and is passed on in accordance with the ante- and post-mortem findings.

The inspection of the carcass and its several parts and organs immediately after slaughter by no means ends the care exercised by the Federal Government to prevent unwholesome meat from getting to our table. The modern meat packing

industry is a complicated and refined science, and is based to a great extent on the principles of chemistry and physics. The processes of preparation of those toothsome hams and bacon that have made the American breakfast table so attractive, and of those canned meat delicacies that our



Fig. 3. Taking record of condemned hogs preliminary to placing them in tank for destruction. Note the stamp, "U. S. Inspected and Condemned."

housewives find so convenient, involve a system of successive steps that require accuracy and precision, and some of these processes are spread over weeks of time. The Government inspector is constantly on the watch for these meats, and ever ready even to the very minute they are packed for shipment to placard them with his "U. S. Inspected and Condemned" tag that will send them to the tank.

The Government takes samples of the curing mixtures and other material, even the water used, and chemic and bacteriologic examinations are made of them in the laboratories located in packing centers for that purpose. In that way the

Government knows at all times just exactly what is used.

For the fiscal year 1912 the chief of the Bureau of Animal Industry reports the quantity of prepared meats condemned as follows:

Beef	7,911,761 pounds.
Pork	9,937,949 pounds.
Mutton	192,326 pounds.
Veal	52,934 pounds.
Goat meat	1,617 pounds.

Total18,096,587 pounds.

Meat, though it may come from a perfectly healthy and sound animal, may become unwholesome by reason of contamination when handled in an unsanitary manner. Proper sanitation is, therefore, a very important and prominent feature of Federal meat inspection. To begin with, plans and specifications of establishments desiring inspection, as well as plans of new plants and those to be



Fig. 4. Examination of cavities of cattle.

changed, must be submitted to the secretary of agriculture for approval. The Government thus gains intimate knowledge of the physical construction of the premises where inspection is conducted.

Space does not permit a detailed description of all the sanitary measures required by the inspec-

tion regulations. They embrace not only proper light, ventilation, drainage, and heating of the buildings, and the construction of floors, ceilings, approaches, etc., from easily cleaned material, but they go into detail about the cleaning of all trucks, tables, and other receptacles, knives, saws, and other tools used in the process of handling meats and their products. The thorough cleaning and disinfection of contaminated tools and hands of the inspectors and workmen are insisted upon. The clothing, uniforms, and aprons of all the workmen are washed daily.

The important part of it all is that all the sanitary requirements are complied with to the minutest details. The expressions of approval from the steady stream of visitors pouring daily into the great plants of Chicago's Packingtown are unimpeachable testimony to that fact. As mentioned before, these plants are always open to the public and the people can see for themselves.

To describe the meat inspection regulations in all their phases and the methods employed for their enforcement in detail is obviously beyond the scope of a single article. The aim of the writer has been to point out the salient facts to prove the general contention that United States Government meat inspection is a serious and thorough procedure, with a definite purpose based on sound, well-recognized principles, and he hopes that his aim has been accomplished.

If all the meat killed in this country and offered for sale to the public were inspected by the Federal government, our entire meat supply would be ideally hygienic, and no one would need have any apprehension about its healthfulness. Unfortunately, that is not the case. As mentioned before, the law of 1906 covers only those meats that are shipped interstate or exported to foreign countries. It has no jurisdiction over meat killed and sold in the same state. At present only 60 percent of the total meat killed and consumed in this country is under Federal inspection; the remaining 40 percent represents what is killed for local consumption by farmers and butchers. The meat from these sources receives practically no inspection at all. It is true, some states and municipalities have inspection laws, but they are usually inadequate or not enforced. It can be readily seen that such meat is not always wholesome, and may at times be dangerous. It is reasonable to assume that the same percentage of animals killed by farmers and local butchers is affected with the same conditions that are found in those killed in establishments under Federal inspection. Very likely they are more frequently and more extensively affected, because the soundest and best nourished animals are sent to the big markets, where they bring the best prices.

Of course the average farmer and butcher can be relied on not to market unwholesome meat knowingly, but the danger lies in his selling unwholesome meat not knowing it is unwholesome. He may be able to recognize gross extensive lesions—for instance, of tuberculosis, or a maiming injury—but many conditions far more dangerous than these will easily escape him because he has not had the necessary training. The sanitary condition surrounding the handling of uninspected meat can be easily imagined.

There is a way by which the consumer can secure sound meats, and that is by taking nothing



Fig. 5. Examination of cattle in "final room." Note examination of all viscera as well as entire body.

but meat bearing the "U. S. Inspected and Passed" stamp. That would soon cause the dealers to realize that it is for their own benefit to have Federal inspection, and it would also force municipal and state authorities to inaugurate competent inspection in the absence of Federal inspection. The steady increase in the number of establishments asking for Federal inspection year after year proves that contention. The number of such establishments has risen from 9 in 1891 to 935 in 1914.

No modern housewife would think of buying her bread, her sugar, or her vegetables in an unclean store, or in a store that recently harbored a contagious disease, but how many housewives think of inquiring about the source and purity of the meat they buy? It seems rather negligent on the part of our otherwise progressive American women. But let us not convict her too hastily.

She does not know the facts, not having been informed about them.

There is a tendency nowadays among circles engaged in hygienic work of a public nature to take the public in their confidence, so that it may benefit by the work accomplished. The American Medical Association is coming more and more to recognize the value of legitimate, dignified publicity in promoting preventive medicine, and the association has undertaken several steps to bring within the reach of the general public the facts about what is being done and what can be done to improve public health.

It is hoped that Federal meat inspection will receive the recognition it deserves. It is a work of magnitude and of far-reaching importance in its results.

CONCLUSIONS AND RECOMMENDATIONS.

1. The United States Government meat inspection is a thorough and effective practice of great hygienic value.

2. Because the meat law of 1906 covers only those meats intended for interstate and foreign shipment, state and municipal authorities ought to promote inspection, as far as possible, of the local meat supply coming from sources not under Federal inspection.

3. Because of the great economic loss to the

country through the condemnation of meats, measures to eradicate those conditions affecting food animals which cause their condemnation are indicated.

The United States Department of Agriculture is doing effective educational and field work toward the eradication of the most important of these conditions, notably hog cholera and tuberculosis. Laws exist in many states for the control of tuberculosis among cattle coming from other states for breeding and dairy purposes, and measures exist in many states for the testing of cattle for tuberculosis and segregation or slaughter of certain reactors. That these measures are inadequate is seen from the fact that tuberculosis in cattle and hogs coming to slaughter is increasing constantly. Lack of uniformity and cooperation is probably the cause of the ineffectiveness of these measures.

4. Because tuberculosis is the most common cause of condemnation of cattle and hogs, and because milk is the most potent, if not the only, medium of infection of man with bovine tuberculosis, measures must be undertaken to insure a pure milk supply.

This function must be assumed by municipal health authorities for the present. The medical profession has a distinct duty to perform in educating the people to the importance of pure milk.

HOSPITAL ORGANIZATION AND ACCOUNTING SYSTEM.

Books Should Be Kept by Units, and Heads of Departments Should Be Held Responsible—Accurate Records on Proper Forms Necessary—Distribution of Cost of Goods Bought in Bulk Over Whole Time of Their Use Must Be Made.

By HENRY M. WECHSLER, B. C. S., C. P. A.,
OF WECHSLER & MILLS, PUBLIC ACCOUNTANTS, NEW YORK.

THE questions dealt with in this article have grown to much importance in recent years, owing to constant and complex economic changes in this country, and they must grow more important in the future.

Not many years ago it was possible for an individual to engage in an undertaking, and, by perseverance, hard work, and the application of certain elementary principles, succeed. In the last decade, however, with the advent of new conditions, the principles governing business operations have grown to such an extent that only with the aid of science can one hope for success. It makes little difference whether the undertaking is operated for profit, or, supported by voluntary contributions, is operated for a charitable purpose. The necessity for the application of scientific principles in order to efficiently and economically operate any undertaking has become imperative. The

industrials and railroads have long since realized this. It is only within a comparatively short time that the managers of eleemosynary institutions have begun to investigate this matter so far as it applied to them. That they should only now realize the importance of scientific management is due, in a great measure, to the indifference of the supporters of such institutions in the past—the increased cost of maintenance may have been, however, the impelling force.

The success of a mercantile undertaking is measured by the amount of profits it can earn. Following this simile, the success of a hospital should be measured by the amount of good work it can do at a minimum cost, or, given a sum of money, it should be made to do so much more good work than before the application of the new principles. A clearer understanding of the principles involved and the ideals for which a hospital should

strive would tend to bring about the desired object.

The points I purpose to discuss here are of practical value, being based on my personal experience of many years as an auditor and systematizer of hospitals. The many hospitals that have come under my notice have, in principle, an organization divided into many units. The principle is good, but the deficiency arises in that the duties and responsibilities of each of the departmental heads of the units are not clearly defined, and the tendency, therefore, to overlap on each other's duties is usually very marked. To allocate these duties and responsibilities properly would require the services of an expert who could make a study of prevailing conditions in accordance with a well-conceived classification, assigning to the subordinate officers duties for which they would be held responsible.

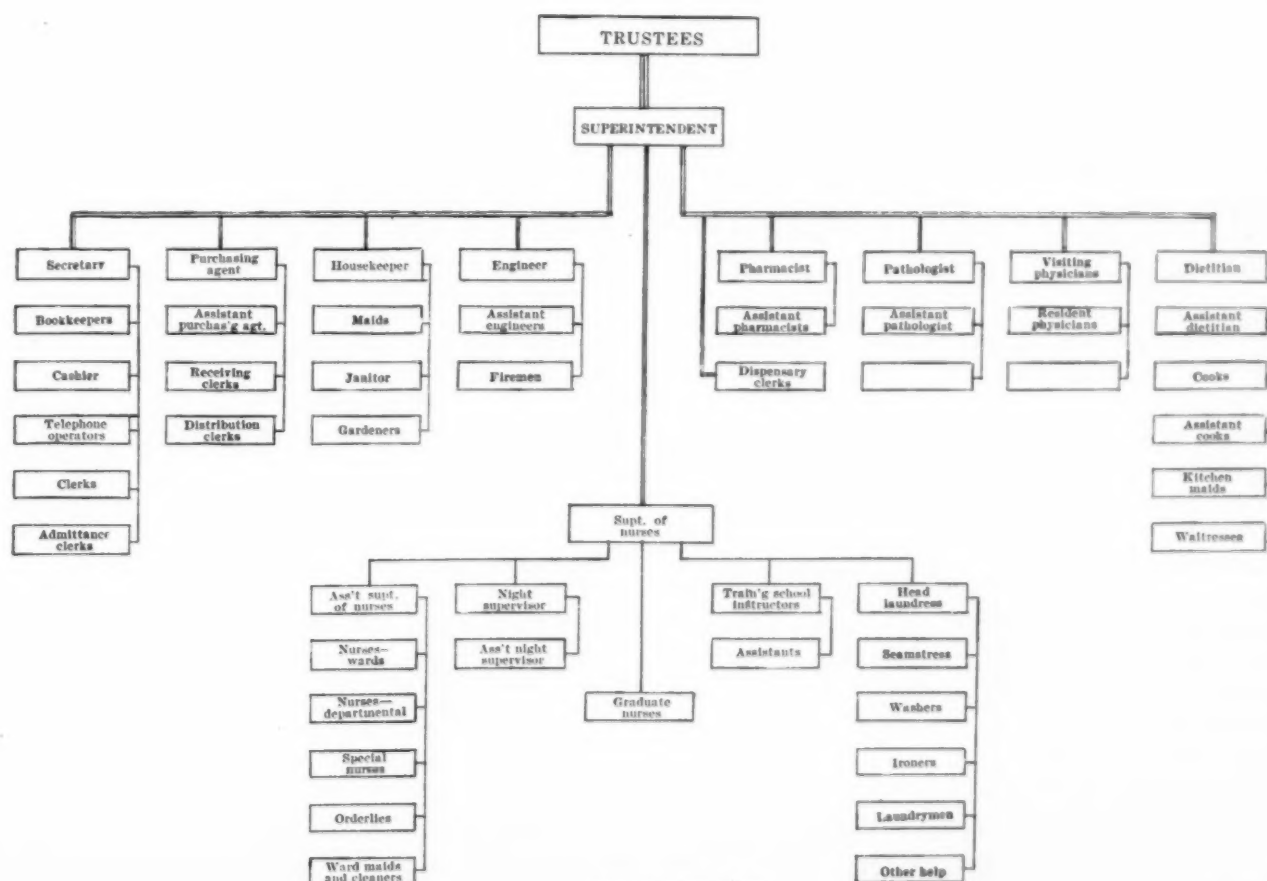
The organization of a hospital will, of course, depend on the arrangement of its buildings. I present here the following chart, showing the organization of a hospital having a capacity of 300 beds, and which, with certain modifications or amplifications, could be followed by many hospitals, if not by all, small and large.

The organization as herein outlined, it will be noted, places the departmental heads and employees in their proper relation, but it must be borne in mind that no organization, however com-

plete as to its personnel, can perform the functions assigned without proper records. This, then, is the next step to be considered.

It would be an easy matter to devise a system which would consider the operations of a hospital as one unit, but that is not desirable for obvious reasons. The cost of maintaining one unit or department may be higher or lower than another, and therefore the hospital must be so divided as to give the necessary data with the least possible effort and expense. There are in most hospitals six principal units—i. e., medical ward, surgical ward, obstetrical ward, private pavilion, children's ward, and dispensary. Their location cannot, of course, be changed, but each unit should be clearly defined as to its location, since this has much bearing on the methods of distributing the expenses, uses of records, requisitions, etc. Next to these units, attention must be given to the departments, of which there are many.

Another feature to be considered at this time is the location of the store rooms; on their accessibility will depend the success of any system. It is needless to state that they should be located at central points, where the receipt and disbursement of supplies would be facilitated. A purchasing agent or steward should be placed in charge, assisted by one or two clerks, as the necessity may arise. He should be given authority to purchase



Organization chart.

all supplies, except the drugs, the purchase of which requires technical knowledge. The dispensing of supplies, on duly approved requisitions, may be vested in one clerk. Necessarily, records should be maintained that will keep track of the supplies as received and distributed, and from the receiving slips and requisitions a summary or analysis sheet can be prepared. A copy of this summary should be rendered monthly to the office for record. If this sheet has been prepared properly, no difficulty should be experienced in ascertaining the monthly charges to each unit and department. It should be observed that the above refers to supplies actually consumed.

Most hospitals consider the purchase of any supply as an expense the moment it is received. That this method is not correct may be seen by taking coal as an illustration. It is usual to purchase coal during the summer months in a sufficient quantity to last over the winter months. Assuming that one hundred tons have been purchased, it can readily be seen that, unless this item of expense is distributed as consumed, the month in which the purchase was made would be burdened with an expense not belonging to it.

This brings us to the question of inventories. Any system of costs that is not controlled by the financial books will prove defective. It is therefore necessary to create accounts in the books which, with the aid of proper forms, will record the operations of the hospital and at the same time show, monthly, the balance of supplies on hand. These monthly balances, as shown by the financial books, should be reconciled not only with the balances shown in the stock records, but exhaustive tests made of the larger items by an actual physical count. It is, however, always desirable to take an actual inventory monthly and reconciliation made with the books. With respect to other charges, such as light, heat, water, etc., and accruals which have to be included in the monthly operations, they would first have to be ascertained and then prorated according to the patient days or according to the area of each unit. Two elements of cost would thus have to be considered, viz.: actual and accrued.

An accounting system for a hospital, if it is to serve any useful purposes, should have for its object the allocation of the earnings and the determination of the cost per patient day in each unit—medical, surgical, obstetrical, etc.—the cost of each department, the cost of maintaining a training school, etc., without involving too much detail. The usefulness of such a system may be gathered from the following monthly statement, extracted from the first report prepared for a hospital in which a system as herein dealt with was installed:

EARNINGS AND EXPENSES, BY UNITS AND DEPARTMENTS, FOR THE MONTH ENDED DECEMBER 31, 1912.¹

Items.	Earnings.	Expenses.
UNITS—		
Medical ward	\$ 1,130.79	\$ 2,265.38
Average per patient day.....	.365	2.138
Surgical ward	979.58	1,995.08
Average per patient day.....	.997	2.069
Obstetrical ward	1,367.88	1,475.42
Average per patient day.....	2.067	2.671
Private pavilion	4,125.68	3,959.87
Average per patient day.....	3.423	3.156
Children's ward	1,496.48	3,740.53
Average per patient day.....	.731	2.563
Dispensary	630.25	1,707.73
DEPARTMENTS—		
Surgery	807.00	808.53
X-ray	202.25	225.40
Miscellaneous earnings	809.11	.....
Total	\$11,549.02	\$16,173.94

The cost of nurses for the month was \$3,085.85, or an average of \$0.897 per nurse per day.

A detailed explanation of the manner in which these amounts were determined would involve a very lengthy article, which would accomplish little, since no "cast iron" system can be outlined that could be installed without involving too many changes to meet the individual requirements.

A statement of the character shown above, if rendered to the superintendent and trustees every month, would accomplish two things: first, prevent leakages in any department, and, second, keep the expenses within a proportionate limit consistent with good work. No mention is here made of the earnings, since it is admitted they cannot be controlled, varying with the kinds of patients admitted, nor of the contributions, membership dues, etc., since these items of income, not having to do with the actual operations of the hospital, should be considered separately as affecting the deficit of the year's operations.

In conclusion, let the system be devised and installed by those who, by virtue of possessing the necessary scientific knowledge and practical experience, are most qualified to do such work.

¹This was the first monthly statement prepared under the new system, and the averages per patient day are high, though actual. It is interesting to state here that during the first half of the year the averages were reduced to almost one-half. These reductions continued until the end of the year, when the averages became so low that no comparison could be made with the results shown in the first month. The low averages have continued since.

A pamphlet issued July 1 by the National Association for the Study and Prevention of Tuberculosis offers a strong argument against the notion that an institution for the treatment of tuberculosis is a menace to the health of those living near it. The pamphlet is a review of investigations made in one hundred and fifty communities where sanatoriums are maintained, and it is stated that not one case was found where assertions to the effect that an institution of this kind would spread disease could be substantiated. Dr. Edward L. Trudeau, who in 1885 built the first tuberculosis sanatorium in the United States, the Adirondack Cottage Sanatorium, of which he is still the head, is quoted as saying that, to his knowledge, there has never been an employee who came to the sanatorium in sound health who developed tuberculosis while there. Dr. Trudeau is of the opinion that the health of a community is no more endangered by a sanatorium built in its midst than it would be by one placed on the top of a mountain miles away.

THE RELATION OF WORK TO SOCIAL SERVICE.

Dissection of the Mind of the Patient Must Be Made—His Past History and Causes That Led to Disability Must Be Known Before Wisest Help Can Be Decided On.

BY MARY IRVING HUSTED,

DIRECTOR OF THE INDUSTRIAL DEPARTMENT CLIFTON SPRINGS SANITARIUM, CLIFTON SPRINGS, N. Y.

OF what value is industrial work to the individual patient?

A woman suffering from chronic arthritis, after weaving for two hours each day during three weeks, finds the stiffness of her joints lessened.

A man who is depressed as the result of mental overstrain becomes interested in carpentry and in physical effort finds mental relief.

A woman who is nervously overwrought regains self-control through the power of concentration acquired by doing leather carving.

A woman suffering from traumatic neurosis regains her power of "doing things" through assisting in simple craft work.

Such cases are typical in our industrial department, where the possibilities of individual helpfulness are being similarly studied. It is true that to the casual observer these pupils at work on a variety of crafts seem to be simply amusing themselves, for there are as many well people as sick people in these rooms, and the atmosphere is one of good cheer; but the teacher, who knows the physical condition of each "patient," is doing her best work, not in the cultivation of correct technic, but in helping that patient, through the careful use of manual work, to overcome some handicap or to regain mental poise.

"The world is primarily a working world. From the insects to the angels, creation hums with work, and through work fits us for play."¹

The child who is considered too delicate for study plays his way into a manhood of helpfulness, undisciplined and unfitted to take his place in the world. The son of a millionaire may drive his four-in-hand, but when his three score and ten years are told off (if he has the stamina for three score and ten), what record that is worth while is left behind? How has this earth benefited by his personality? We read the first pages in the biographies of great men and great women, and in the light of what they became we see the factors in their lives which developed possibilities of usefulness—inheritance. And hand in hand with the gift of a past we find the gift of a present, the necessity of earning a living; the gift of that tremendous energy, *work*, demanding concentration, knowledge, self-sacrifice, opening the doors of usefulness and of insight into the meaning of life.

The thinking father and mother of the twentieth century do not leave their sick child to play with a nurse through all the hours of the day, but teach him to use wisely whatever strength of body and of mind is his, and by the using help him to develop physically and mentally. The rich father is begging to send his blasé son to Labrador to meet life on a primitive footing under the leadership and guidance of Dr. Grenfell. Work is fundamental in development. He who studies the history of education notes how the pendulum has swung back and forth between methods where the boy is forced to buckle down to a working out of his own problems, often undoubtedly too narrow in their scope, to methods where the boy leans back in idle contemplation of the ardent efforts of his teacher to do the work needed by his own brain—efforts meant to inspire interest in the subject in hand, but by this very method robbed of the expectancy of self-discovery and of the value of mental training.

We are beginning to get the results of so-called "modern education." What do we onlookers see? Much of buoyancy and of the individual in personality which we all want, but is there not something missing, a need which is bound to be felt as this young army takes its place in the ranks of those fighting life's battles? a lack which is already accounting for the fact that many a young person is proving unequal to the demand of his or her life. A short time ago a man said to me, "I can find plenty of young people, wideawake and interested, to help me in my work, but I can find few who are capable of doing work *accurately*—who seem able to follow directions exactly as they are given." A prominent physician, a nerve specialist, said to me recently, "I am going to take my children out of the school in which they are, and put them where they will be taught to *work*. I don't care if they study only the 'Three R's.'"

It is for others, specialists in the study of child education, to face these questions and to evolve methods which shall develop the personality of each child, at the same time teaching him self-control and such power of concentration and accuracy of thought that he may be counted on in later years to meet the exacting demands of life in a world which exists by law and order.

My own opportunity of helpfulness lies not with those looking forward to life's battle, but with

¹Richard C. Cabot, M. D., "What Men Live By—Work, Play, Love, Worship."

those who have already been on the field, who have tested their spurs and found the metal untrustworthy. Many have won frequent victories, then have fallen. Some have never been beyond the rear of the army, but were full of enthusiasm—and they have been laid low. It is for us who are working with the physician to study that we may understand each of these comrades; to face the all-important question, Why has he proved unequal to the demands of his individual life, and, with the skill and scientific care of his physician to count on for the patient's physical relief, to strive to work with that physician in rebuilding lost poise and efficiency.

To repeat, the first question we must ask ourselves is, Why has this man or woman given out in life's battle? The second question is, How may we help this person back into the fight, equal to the strain, mentally keen for the struggle?

The rapidity with which during the past ten years sanatoriums and hospitals in many parts of the world have come to include industrial departments in their equipment bears sufficient testimony to a recognition of the value of handwork for patients. The nature of the industries naturally varies with the special needs of the different institutions. In hospitals for the insane we find chiefly weaving, coarse basket making, chair caning, and sometimes lace making—industries in which the worker may follow simple directions, and be fairly sure of good results with slight expenditure of nervous energy. The deft fingers of the blind are doing finer and more elaborate weaving. Cripples are learning that there are forms of handwork in which they may excel and by means of which they may earn an honest livelihood. At Sharon, Conn., the experiment of a cement industry for cardiac cases is being tried out, and in hundreds of places the "nerve patient" is being helped back to a normal condition through indoor and outdoor industries.

Here at Clifton Springs we have a peculiarly broad and interesting field for work. Our industrial department has just completed the first year of its history, a year in which we have been studying possibilities with an almost bewildering result, so many are the doors of usefulness which might be opened. Other institutions are dealing with single problems—those of a hospital, of a sanatorium, of a special type of patient, etc. Here we are dealing with a complex problem, for Clifton Springs Sanitarium is itself complex. One patient tells me she has found it a hospital, and its surgical department has meant the possibility of a lengthened life; another, that it has proved a "rest cure," in which slowly exhausted nerves have grown strong; a third, that the spirit of the

place has brought peace; and others, that they have learned how to live and are going back to old duties with fresh enthusiasm.

The unusual combination of patient and well person gives the Clifton Springs Sanitarium a unique character and creates broad possibilities of usefulness. In our industrial rooms it is difficult to remember who is patient and who is the father, mother, sister, brother, or friend of a patient. A young girl convalescing from an operation quietly carves leather in a window corner during the early afternoon hour when the room is not crowded. A man in the opposite corner is making his own design for a leather case. He tells me later that this designing has been his needed proof of recovered nervous strength, for it was work demanding close concentration that caused his condition of nervous exhaustion. Later the room is filled with people who are staying in the sanatorium in order to be near invalids whom they have brought here for treatment. At such times it is interesting to watch the conversation as it drifts from literature to travel, or to a discussion of new possibilities of some of our crafts. It is an atmosphere of health, and the patient forgets his especial "Achilles heel" in wider interests.

We have stumbled upon a simple way of making what we call "water color designs" from cretonnes. The technic is so simple that a beginner can easily follow those designs already worked out, and after a little experimenting can create similar ones, combining her own choice of colors. This method of weaving designs in rugs has proved a fortunate discovery, partly because many of our pupils are too ill to make the more exacting "embroidery" or "overlaid" designs of many modern rugs, or are spending so brief a time at the sanatorium that they cannot undertake finer linen or silk weaving, such as we offer more advanced pupils. Here at one loom a patient of the sanatorium is weaving rugs for her own home, at the next loom a woman is doing this work in order to help reduce her weight, while at a small handloom a patient who is unable to use her feet is weaving a finer texture.

Bed patients and wheel-chair patients weave tapestry baskets. This, the least of our crafts, is the one which most frequently brings far-reaching results. These special pupils are usually patients who are spending several weeks, often months, in the sanatorium. Many are post-operative cases, some are nerve cases, and some are having protracted corrective treatment. While this simple craft may meet the need of a new, diverting occupation, it at the same time meets a greater need in the bringing to the bed patient an acquaintance who comes daily at an appointed time with a legit-

imate reason. There is no feeling on the patient's part that she is "being done good to," for this visitor comes simply as a teacher. Sometimes the relation remains merely that of teacher and pupil, but more often I find proof, as I look back over the history of these cases, that an acquaintanceship has grown into a friendship. It is from letters which come to us from such patients after they have left the sanatorium that we learn most of our failures and successes in comradeship.

We are all "children of a larger growth," and, after all, reeducation is simply child training in a new form. Must we not meet each patient as an individual and with a thoughtful consideration of the developing forces of life, in order that we may lead her to an understanding of herself and the equipping of herself for taking up life afresh? As people talk with me of past experiences and look forward into the years to come, I find that I ask myself certain questions, which may be classified in some such form as this:

- I. The patient's past.
 1. Why did she choose her special vocation?
 - (A) Inclination?
 - (B) Force of circumstances?
 2. Why did she prove unequal to this work?
 - (A) Did the strain come from the nature of the work itself?
 - (B) Did the strain come from outside causes?
 - (a) Hygiene conditions?
 - (b) Environment?
 - (c) Outside demands on her strength?
 - (C) Was the patient fitted for this special vocation?
 - (a) Lack of training?
 - (b) Temperament?
- II. The patient's present (during illness).
 1. Antipathy to old work?
 - (A) Because unsuited to this vocation?
 - (B) Because the actual conditions are exaggerated in the patient's mind through memory of the effort necessary to carry on that work when physically unequal to the task.
 2. A realization of the fact that the former reasons for choosing this work may again make it necessary.
 3. A dread of the old struggle.
- III. The patient's present (during convalescence).
 1. The return of a vague interest in life.
 2. A wish to consider the future.
 - (A) First, the desire to try a new field, feeling that anything new will be more possible than the old work.
Second, with increased strength comes the natural facing of personal responsibilities and the question as to what extent they should be considered.
Third, with the nearer approach of normal health comes the power of judging more fairly one's relation to life.
 - (a) Governing influences—natural fitness; training; experience.
 - (b) The relation of one's life to other lives.
 - (c) Probable future physical condition.

- (B) In more advanced convalescence comes a re-return of interest in old problems, combined with a realization of the value of experience in future usefulness.
- (C) Choice between returning to the old mode of life or taking up an entirely new life work.
 - (a) How best to meet the old obligation.
 - (b) Reeducation in the sense of technically fitting oneself for a new career.

In many institutions where industrial work has been introduced the patients belong to the laborious classes. The sick people and the well people who work together in our industrial rooms belong rather to the professional classes. These men and women are not interested in crude forms of work. The industries we offer them must be artistic, and it is frequently their own imagination and originality which inspire new creative efforts. To a limited extent we can give these people interesting occupation. We can guard them from working too strenuously and so often ward off discouragement, but it is to the special physician of each individual patient we must turn for needed information regarding that patient's physical condition. "Physician and social worker must do *team work* if they are to succeed."² Without a diagnosis of each case, the industrial teacher is in constant danger of doing harm rather than good. Work which one person may attempt without the slightest danger may be too exacting for the eyes of another. The weak points of each patient must be carefully kept in mind, and often the physician is the only competent judge of just the amount of work it is safe for a patient to attempt.

²Richard C. Cabot, M. D., "Social Service and the Art of Healing."

Work has been begun on the new building for the People's Hospital Company organized at Akron, Ohio, early in the summer. It will be a three-story and basement structure, with a capacity of 112 beds. The equipment will be modern in every particular. It is estimated that the cost will be about \$128,000, comprising \$18,000 for the site, \$95,000 for the building, and \$15,000 for equipment, the total outlay per bed being approximately \$1,143. As stated before in these columns, it is not anticipated that any endowment or contribution of any kind will be required for the maintenance of the hospital, it being the belief of the promoters that it can be operated on a self-supporting basis.

The \$75,000 sanitarium building which has for some time been in course of construction for Dr. W. R. Newton at Cameron, Tex., has been completed. On the base it is 157x84 feet. It is three stories high and of fireproof construction, balconies, galleries, and sleeping porches included. The building is heated by steam, controlled by thermostatic regulation. On the first floor are located the administrative offices, dining room, staff dining room, examination room and x-ray room. On the second floor are sixteen private rooms and two ward rooms of 10 beds each. In the third story, which covers only the central part of the structure, are ten private rooms, a solarium, a lecture room, and the surgical department. The floor of the operating room is of white tile and the walls of glazed white tile. Each private room is connected with bath. The institution will be conducted under the name of the Cameron Sanitarium and Training School for Nurses.

ARTIFICIAL ILLUMINATION IN HOSPITALS.¹

Problems in Ophthalmology, Physiology, Psychology, and Architecture Enter Into Study of Illumination—Eye Strain Avoided by Proper Distribution and by Concealment of Direct Light Source—Distribution of Light at Ceiling by Indirect System Is Physiologically and Physically Proper.

BY MEYER J. STURM, ARCHITECT, CHICAGO.

I APPROACH the subject of my paper, "Artificial Illumination in Hospitals," with some trepidation, inasmuch as in my experience of an architectural practice limited to hospitals I have found that there is a most disconcerting difference of opinion among those connected with hospital work as to what constitutes proper procedure in almost every branch of the construction and equipment of such buildings. This is all the more evident in such matters as pertain to the equipment, and under this heading I include the proper method of illumination—namely, the fixtures and apparatus necessary for this branch.

I am unalterably in favor of standardization, and I hope your committee in charge of that work will continue its good efforts along the lines it has been advocating and working. May I ask that we, the architects who are intrusted with the carrying out of your projects, be given a voice in your councils, and, in helping you, help ourselves to be of greater assistance.

My subject is presented to you with the thought in mind that it will be a basis at least for one standard procedure. So far as possible, I have standardized in my profession all specifications and drawings for equipment in plumbing and electric work, sterilizers, kitchen equipment, and the general equipment of hospitals, but I seem not to have been able to reach a definite conclusion on this standardization in the matter of illumination, simply because the methods of most architects, in working out the illumination problems for hospitals, have been somewhat haphazard, and, secondly, because the subject of illumination is comparatively new so far as the physiological and psychological effects of such illumination are concerned. I wish to present the subject, therefore, in such manner and form that you will be able to draw definite conclusions and be prepared to adopt such standards as will apply to your particular problems.

The subject has so many points from which it could be discussed, that it is hardly possible to go into them all this evening, inasmuch as it would take volumes to give you all that has been written and advanced relative to the subject of illumination. What I am attempting to bring especially to you, however, is a clear and concise compro-

mise between the abstract and the concrete in the subject, as applied particularly to hospitals.

It will be necessary to give to you some of the technical data on this subject and then to give you the practical application of this data. The field of the illumination specialists has changed considerably in the last few years. Formerly we knew only the terms of illumination in candle-power. Now we study illumination not only from the point of intensity of such illumination, but from the physiological as well as the psychological effects.

I wish to call your attention to the fact that illumination intensity measurements are entirely inadequate to determine the effect of any given illumination system on the retina. From an electrical engineering standpoint there is a well-defined field. Physical science and mathematics, both pure and applied, must also be brought to bear. The illuminating engineer must, however, know besides these, and highly specialize in, ophthalmology, physiology, psychology, and architecture, and, as one author very concisely expresses it, "he must be familiar with all phenomena of light production and its application, from the coal pile to the human brain."

A few words will be necessary, therefore, on the physiology of the eye from the viewpoint of the illuminating engineer. As is well known to you, the eye is not only an extremely complicated instrument, a camera obscura, best expressed by Dr. Turner when he states that "its recipient, recording element is a living tissue, so wonderfully and delicately specialized that the untiring efforts of our most highly developed physicists and physiologists, applied assiduously over a period of many years, have hardly sufficed to secure even the most superficial knowledge of the obscure processes whereby the vibrations of radiant energy, passing through the transparent refracting media and falling upon the retina, are converted into such form of energy as is capable of producing in the cerebral centers the physiological phenomenon known as vision, with its variations as to light and darkness, color and luster."

As is well known, light is not a physical quantity, but is the physiological effect produced in the cerebral centers by a nerve stimulus. Physiologically, therefore, we have only to consider the significance of brightness—not only the intrinsic brightness of light sources, but all subjects in the

¹Paper read at the sixteenth annual convention of the American Hospital Association, St. Paul, August 25-28, 1914.

field of view—and it is the illuminating engineer's field "to produce in the field of view a distribution of brightness possessing certain desirable characteristics."

Haphazard methods cannot be employed, inasmuch as the mere attaining of a certain illumination does not indicate that one has a desirable brightness distribution; nor, as a matter of fact, can any installation for the purpose of illumination be described in terms of illumination. Dr.

as the brightness of the surface. Perhaps the most striking characteristic of brightness, as distinguished from illumination, is that it does not change with the distance between the bright surface (real or virtual) and the observer. A bright surface is equally bright whether one views it from 1, 10, or 50 meters. This follows from the definition; for brightness is a physical characteristic of the light-giving surface, and not of the observer's eye or position. The meaning of this, with respect to the eye, is important. The light flux entering the eye from any small surface varies inversely as the square of the distance from the surface to the eye. But likewise the solid angle subtended by the surface varies inversely as the square of the distance. Consequently the flux per unit area of the image upon the retina remains the same; in other words, the brightness of that image is constant. Remember that the eye is a camera, and it follows immediately that a measurement of the brightness of surfaces in the

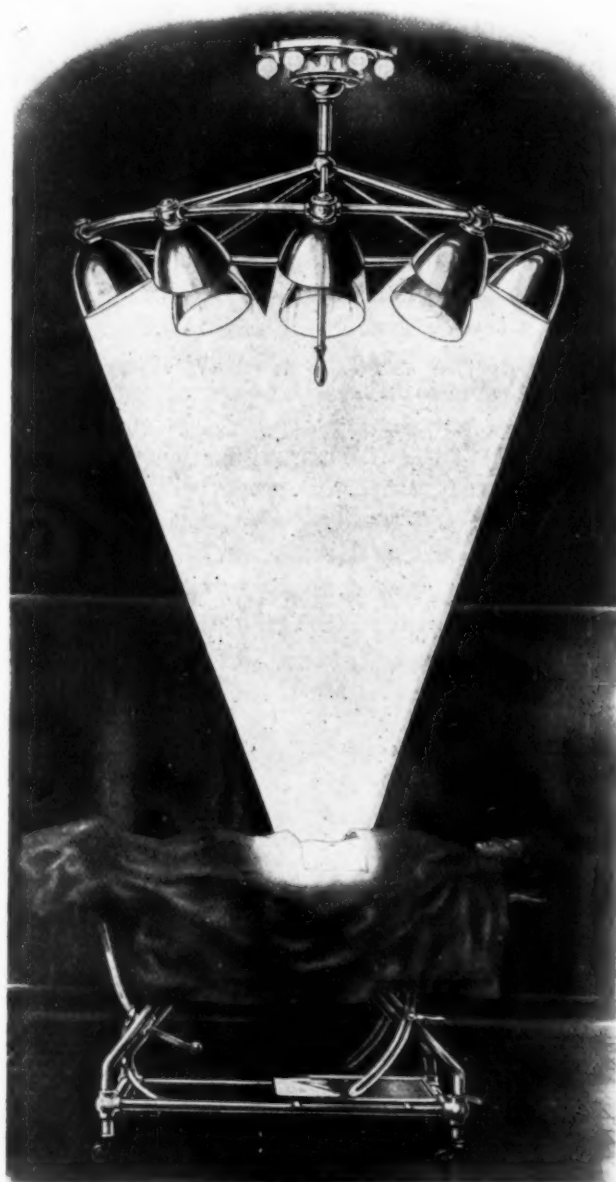


Fig. 1. Operating room light, designed not to cast any shadows on the operating field.

Ives gives as a definition of brightness that "every visible surface is giving out light." In other words, it is a light source of definite and measurable candle-power; it has area, which too is measurable. To measure the candle-power per unit of area thus becomes a definite physical problem. This quantity, expressed in consistent units, such as candle-power-per-square-centimeter, is defined

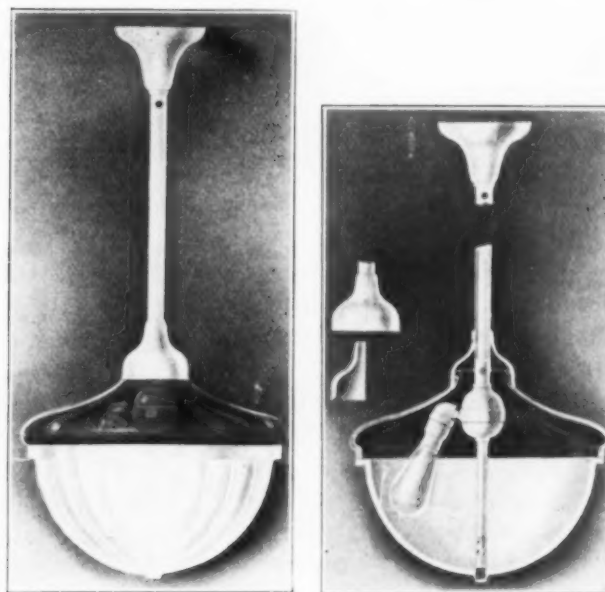


Fig. 2. Special lighting fixture for hospital—A, exterior view; B, sectional view.

field of view is also a measure of the relative brightness of the corresponding parts of the image on the retina.

As a consequence of this attribute of brightness, it may be measured from any position. While, for instance, an ordinary photometer placed in the center of a room can measure only the illumination at that point, a brightness measuring instrument can from that location survey the whole visible room, walls, floor, and furniture. Perhaps the most accurate commonly understandable analogy to illumination and brightness measurements is furnished by the photographic camera. Let it first be used in the ordinary manner to take a picture of the room. This corre-

sponds to the measurement of brightness. Let it then have its lens covered by an opal glass. Now all it can distinguish is the sum total of the light coming in a given direction. This corresponds to an illumination measurement. The scene presented to the camera may contain bright windows or lights, which cause local halation, and dark shadows which will fail to show detail; or, on the other hand, it may be a uniform white sheet. With the lens working, the radically different character of the two scenes would show on the picture. With the opal glass the blackening of the



Fig. 3. An example of how modern lighting may be applied in both a practical and an artistic manner.

sensitive plate might be the same for each. So illumination measurements may give a totally inadequate description of what the eye must endure.

It is not necessary for me to go into the manner of the measurement of brightness, but this can be done scientifically and clearly. It must be taken into consideration, however, that what the eye sees is not illumination, but, more precisely, the distribution of the brightness in the field of vision. In other words, illumination is merely the method of producing brightness distribution, and it is the field of the illuminating engineer to analyze the best methods of the arrangement of brightness in this visual field that are pleasant or safe. Such measurements, properly made, make the entire field of what the eye actually sees. This might be illustrated as follows: considering the two extremes of black and white walls in a room, these walls may in either case receive the same illumination, but it is obvious that the eye or the retina could not properly receive the same stimulation from the black surfaces that it would from looking at the white.

Consider also a room illuminated by overhead exposed light sources. Let the observer, without changing his position, place and remove an eyeshade. While the "working plane" illumination

remains constant, his visual field is quite revolutionized from the standpoint of comfort. A plot of the brightness distribution in each case is again a true index of the physical cause of the different effect on the observer. A similar case is presented where overhead lights are raised several feet. The illumination may be lowered, but the visual field is freed from its most glaring features. Consider an observer facing a large area, moderately bright surface, such as a ground-glass window. Next let the window be replaced by a black surface, in the center of which is a point source of light of the same candle-power as the whole white surface. Now, although the same amount of light enters the eye—i. e., the illumination at the point where the eye is located is identical—the distribution of brightness is radically different, as is the visual effect from the standpoint of comfort. Remember also that light is a cause, illumination an effect, and that brightness, as stated, is a light source of definite and measurable candle-power given out by every visible surface, a definite, tangible constant.

In all probability the light source illuminating an object under observation must be concealed, no matter what its intrinsic brilliancy. Mr. Herbert Ives states relative to this that "if one considers a light source of lowest possible intrinsic brilliancy which can give a certain chosen illumination, it



Fig. 4. A modern lighting fixture installed in a private room, giving glareless illumination.

consists of an infinite plane, such as a uniformly cloudy sky." If one takes a perfectly plain white matt reflector and places it parallel to the infinite plane at any distance from it, the question arises, what is its intrinsic brightness, and the answer would be, the same as that of the plane. Take any reflecting surfaces, such as found on ordinary every-day objects; these will all be of lower reflecting power than the one just considered, and will consequently be less bright than the light

source. Since all other light sources giving the same illumination will be brighter than this infinite plane, it follows at once that, in order for any illuminated object to be less bright than the light source, the latter must be concealed. By this is not meant merely the concealment of the original light-emitting unit, such as the mantle or the filament, but the concealment of that surface which really acts as the light source of the point or plane of interest. Thus the bright ceiling used with an indirect fixture is the true light source, inasmuch as by no entirely photometric device or measurement can any distinction be made between a diffusely reflecting ceiling, a diffusely transmitting ceiling, or an incandescent glowing ceiling—surface brightness, directional value, shadows, everything is the same.

A bright ceiling is just as much a light source to be concealed as is a filament, although the discomfort from looking at a bright ceiling is far less than looking at a filament. The ceiling has a great advantage of soft shadows, but still it is always brighter than the object it illuminates. By concealment I do not necessarily mean complete concealment, but only such a degree of obscuring as will decrease the brightness of the light unit, as seen, to a point below that of the object it illuminates. That is, the illuminant need not necessarily be furnished with an opaque metal "bee-hive" reflector; the reflector may be translucent, but of a very low transmission. Here, then, we have the best argument in favor of indirect light, either wholly indirect or so-called semi-indirect.

Let me call your attention here to the fact that one of the many reasons for the growing popularity of indirect lighting is the absence of sharp shadows and the reduction of glare. Inasmuch as tranquillity of mind is one of the first requisites for a patient in a hospital, the elimination of all disturbing elements is to be sought for, and the sharp shadows and the reduction of glare are two of these disturbances which are eliminated by indirect light.

It has been aptly stated by one of our well-known surgeons that lighting fixtures in hospitals up to the present time seem to have been designed for the sole purpose of destroying eyesight, and this despite the fact that, if there is any time at which a person's eyes are more liable to be injured than any other time, it is when the general condition of the patient is below the normal—namely, when he is suffering from some ailment affecting his general condition and consequently his nervous condition.

Up to the present time it might well be said that the method of illumination of most hospitals gives rise to these very conditions. The direct light to which the eye is exposed has the effect of causing

the eye to attempt its own protection. On the other hand, attempting to use the eye has precisely the opposite physiological effect; in other words, on the one hand you have a spasmodic contraction of the iris trying to shut out the light which is tormenting the eye, while, on the other hand, you have the physiological tendency of expanding the retina for the purpose of being able to see something, and the only conclusion which can be drawn from this is that we have had the worst possible conditions for the eye at a time when the eye is not in the best condition to protect itself.

Inasmuch as my subject is artificial illumination, I can only mention the fact that most of our large wards with windows on both sides and the beds facing the windows are an extremely good example of this destructive method of daylight illumination. I see no reason why the hospital should not be an educational institution for the patient and the patient's family, as well as for the nurses, inasmuch as everybody has someone in the hospital at some time. If the hospital leads the way in the use of reasonable lighting, it would take but a few years before our homes are so illuminated that the conservation of sight will be easily attained.

The planning and construction of a hospital today, as compared to that of twenty years ago, has well been stated as the difference between the stage coach and the flying machine. We are at the present time at a point at which two very important elements are creeping into hospital construction. One of these is efficiency—namely, that everything in the hospital, pertaining to the hospital, and of the hospital is for the one purpose of doing things; the second is that there are more and more patients in every community who are being treated in institutions, which institutions cannot live unless you have efficiency and economy combined. I wish I might digress at length on this subject of efficiency and economy, especially on the latter, but time will not permit. I hope at some future date I will have the opportunity to present this subject to you.

The matter of calculations for the working-out of the necessary light intensity, brightness, and sources for a hospital is simple. I shall make no attempt whatever to give you such calculation in foot-candle intensity, but to give to you such figures as are used ordinarily and which are as simple as possible. Take the square-foot area of the space to be illuminated and calculate $\frac{3}{4}$ to 1 watt per square foot of foot area, depending on the room or ward in which the illumination is to be placed. This will give you practically 2 to $2\frac{1}{2}$ foot-candles at the height of the bed, and this is all you need to know about foot-candles. This is for indirect illumination.

In such rooms as need direct illumination I follow the same method, inasmuch as with an intensity of 1 to $1\frac{1}{4}$ watts on the same basis on the same number of square feet of floor area of a room the increased illumination by prismatic reflectors will bring this foot-candle intensity up to proper intensity for working light, inasmuch as in these departments light, instead of illumination, is required.

If you assume any direct light as 100, then with 1.3 watts per square foot figured for indirect lighting, by assuming indirect lighting one-half as efficient as direct light for the same wattage, we have 2.3 watts per square foot when a direct light is used, giving an intensity of 4.5 foot-candles for all such departments as are required to have direct light, with the exception of the operating department. This is considered good working light at table height, at which height there would be practically 5 foot-candles per square foot. Necessarily for operating rooms, if one is to use indirect lighting—and this is coming in vogue more every day—the watts per square foot would have to be considerably higher than for any other portion of the hospital. This intensity can readily be obtained with smaller units than originally, inasmuch as the new large wattage lamps, from 500 watts up, known as the tungsten nitrogen lamps, will give three to four times the light, compared with lamps of the same rating without the nitrogen feature. Unfortunately, such nitrogen lamps are not made in small wattage lamps. I wish to state, however, that the foreign lamps are made from 100 watts up, but these are not standardized as to size, and some of them may run large and some small, so that no standard reflectors could be used unless the same size lamp was used in every instance. Extreme care should be exercised in the use of these lamps, inasmuch as the filament in relation to the reflector must be in exact location, and all reflectors must be designed for this particular lamp. If this is not carefully considered, either when used as a direct or indirect light, there is liable to be a dark area, surrounded by an intensely bright ring. Such lamps should not be used on the ordinary translucent bowls where these are used for reflectors on indirect lighting, inasmuch as the intensity of this light makes the bowl so bright as to be disturbing to the eye.

Applying these principles, and taking as an example the ordinary hospital, we have then to consider the best method of illumination for the different departments. For the purpose of this paper, will say that the working department consists of kitchens, toilet rooms, service rooms, store rooms, corridors, and the like; that the patient department consists of the general offices, wards and

rooms, and that the operating department consists of the operating rooms and their accessory rooms. Then the working department should have direct light concealed by either prismatic globe or beehive reflectors of the metal type, these reflectors to be of larger wattage than the lamps over which they are placed in order to conceal the filament as far as possible. Such lights should be placed as near the ceiling as possible, with concentrating reflectors which would give a good distribution over the entire room, inasmuch as in such a department, with the lights installed high and equipped with large reflectors, the light would not be thrown directly into the eye, and this would be the much more economical method. In the patients' department the indirect or semi-indirect light should be used for the reasons given herein. In the operating department, with the new lamps, the indirect system is admirable, or some system to take its place wherein the same effect is obtained practically, with greater intensity, directly on the field of operation by cross illumination, as will be shown to you in the illustrations.

In addition to the ordinary illumination, there should be the supplying of plugs or outlets in all of these departments for illuminating or lighting purposes; necessarily, in addition to such plugs, there should be the plug outlets for apparatus. In each room or ward, at the head of each bed, there should be a plug, so that a reading lamp or exploratory lamp could be used at each bed. I advocate the plug in preference to the light over the bed, inasmuch as the light over the bed cannot be properly placed so that it will be in the right position for the bed, and also because it cannot be applied closely, and the most potent reason that the light from the lamp is directly in the eyes of the patient when the latter is lying down.

Briefly, I will take up the matter of color, as this is of vital importance in considering this subject of artificial illumination. In the working department the light tan walls and the straw-colored ceilings are to be recommended. For the rooms and wards the blue-greens or grass-greens for walls are very good. The ceilings in every instance should be of the straw color in order to get the soft diffusion of the light. Keep in mind that in any indirect lighting system—or, for that matter, in *any* lighting system—only the color is reflected which prevails upon the illuminating surface. The subject of colors for the walls and ceilings in the operating rooms is one which is now being discussed quite at length. In the last few years I have advocated, and used with extraordinary success, floors of red tile in the operating rooms. Many surgeons are now advocating the use of the light-green tints for the walls and having the ceiling of straw color. This is very restful

to the eye and has every advantage of being as clean as the pure white, and has none of the disconcerting features of the white glare. The wainscots of such rooms can now be obtained in the green tile or green glass, and the walls above such a wainscot can be painted in the green to match. I noted recently in one of the magazines that in some of the hospitals the doctors are even wearing green gowns instead of the former white gowns.

It is necessary, therefore, to give to you some data as to the method of installation of lighting systems. In the working department all lights should be controlled by a single push-button wall switch, unless it is desired to turn these lights on in units, in which case the method followed in the room lighting is advocated. I will show you an illustration of what is commonly known as a two-point and three-point electrolier switch. You will note in this illustration that in the two-point electrolier switch the connection is made so that the first turn or push of the button will turn on one light. This to be of small wattage and used as a night light. The second turn will turn on both lights in the fixture. The third turn will again turn on the first light, and the fourth turn will turn off all the lights.

In the three-point electrolier connection there will be three lights in the fixture. The first turn will turn on the first light, which will again be

the small night light. The second turn will turn on lights No. 1 and No. 2. The third turn will turn on all three lights, and the fourth turn will turn off all the lights. This gives a nice selection of the quantity of illumination, depending on the purpose for which the light is to be used.

Keep in mind at all times that there are plugs at the head of the bed to which exploratory lamps for close work or for reading can be applied. In the case of the operating room, if there are a multiplicity of lights to be turned on, or if in long corridors such lights are to be turned on, it might be well to have them arranged so they could be operated by what is known as remote control switch. This is controlled by what is known as a momentary contact switch—namely, a switch which needs only a momentary push to operate the control and thus turn on all the lights in the circuit. The operation of this switch can also be controlled by a foot control switch, which the operator has under the operating table, when the lights can be thrown on as quickly as need be. Where the lights are to be controlled in all the corridors from one central point, a bank of buttons, as shown in the illustration, can be put in the office with these momentary contact switches, connected up to the remote control switches, which would control, let us say, for example, the central wing, east wing, the first ward, second ward, etc.

THE PRESENTATION OF THEORETICAL WORK TO STUDENT NURSES.¹

Definite Courses of Study Should Be Presented in Logical Order and Accompanied by Practical Work—Ethics and Etiquette of Professional Life Highly Important—Hygiene, Sanitation, Materia Medica, and Diets Should Be Taught in Elementary Way—Bacteriology Sufficient to Show Sources of Infections and Principles of Disinfection.

BY MARY C. WHEELER, R. N.,
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THE young women who are applying to schools of nursing are, in many instances, women who have been earning their own living. Their application is a result of a desire for a broader occupation or for the fulfillment of their cherished ideals. In either instance they have been balancing the profession of nursing with other occupations. After graduation they realize that they have not only received a nurse's education at a small expense to themselves, but also that their income is greater than it otherwise would have been.

The applicants are examining the various schools; considering their respective reputations, teachers, curricula, and home accommodations. A

school must be able not only to present to students a definite nursing curriculum, but also to associate this theoretical teaching with definite practical work. The practical drill develops efficiency, poise, patience, and a response to discipline as is seldom gained in any other way.

The theoretical subjects should be presented in a logical order and in accompaniment with the practical work. What topics are to be taught will depend, in large part, on the number of departments for practical work, on how much material there is to be presented in each department, and in which year this particular piece of work is to be accomplished. Each school must be its own judge on this matter of curriculum, and nothing more than minimum requirements can be de-

¹Paper read before the sixteenth conference of the American Hospital Association, St. Paul, August 25-28, 1914.

manded by any foreign body. The value of the school to the student, the number and qualifications of the students applying, depend on the true value of the nursing education presented.

The preliminary course should act as an introduction to nursing, in the first six weeks of which should be given such talks as will show the students their place in the hospital life, as, for instance, their relation to the board of managers, the attending staff of doctors, the community, the other nurses, and all members of the household. This is also a fitting time to go over and explain the rules of the institution, and the ethics and etiquette required in professional life. During this time the teaching of such elementary nursing technic may be given as any woman might be able to use in her own home, all of which should be under close supervision. The student is also being examined for her fitness to be retained in the student body. Should she fail to qualify at the end of these six weeks, then is the time to decline her further residence in the school.

In the second six weeks such other nursing procedures may be presented as will begin to fit her for night duty as junior in her sixth month. She also devotes more time to general duty and is supervised a little less closely.

Besides the instruction in nursing and nursing ethics, the student should be given some instruction in elementary hygiene and sanitation, elementary materia medica, and hospital diets. Some chemistry is a necessity to lead her to see the intimate relation of chemistry to every-day life. Elementary bacteriology shows the sources and modes of infections and the principles of disinfection.

The theory to be presented after the three months' preliminary course requires careful outlining in order to give each presented topic its proper weight in the curriculum. The number of classes, lectures, and demonstrations on each topic, the time and required relief from duty, together with the instructor, must all receive adequate consideration.

The lesson should be assigned by topic, an outline of it should be given as a framework for the student, and the reading material selected for her so that no time is lost in looking for the same. All materials possible to demonstrate any part of the lesson should be used. After the theory has been given, followed by demonstrations, and the relation between the two made clear, the student may be asked to make her own observations in the ward during the following week, and bring back her observations to the class for discussion. Following this discussion, another demonstration, given by the students themselves, fixes many points for them which were not clear. Students

should understand that they may be called on to demonstrate to other groups of persons—such as attendants, orderlies, head nurses, etc.—at unexpected times.

The students should be required to report for all classes and lecture work, except those from which they are excused by the proper authority. Demerits for tardiness and inattention should be given. Recitation and examination marks are a part of the history of the student. One successful plan is that she receives credit for thorough work by an excuse from final examination in the subjects in which she has made a grade of 85 percent. She is not allowed to take the examination unless she makes at least a 70-percent grade. Being unable to make 70 percent, she is not retained in the school unless she can make up the study before the next term. Final reports for the year are given the student, together with her efficiency mark in her practical work. All records should be filed for future reference.

One person should be in charge of all of the theoretical work, and should not attempt to cover all of the topics in the curriculum. Others who can give the time to the instruction in special subjects should be secured. Outlines of the work to be presented should be submitted by them to the head of this department, so that she may know if the work to be presented covers the subject sufficiently or goes into it too minutely. To meet the needs of the person in charge of the theoretical work, her teaching department must be adequately equipped, including class, lecture, and demonstration rooms.

Student nurses are no different from any other body of students in that they appreciate instructors with good personality, a thorough knowledge of the subject, which they should be able to impart, and they should be interested in their students as individuals. Lecturers should be selected for the same reasons as given for the selection of teachers.

The follow-up work in the wards is of great value in that faults in technic are corrected before they become established habits. The mere fact that the work is examined, corrected when necessary, and appreciated when well done, inspires better work, keeps the interest of the student alive, and tends to make her what she should be—observant, thoughtful, and an upright woman with an aim in life.

The successful school of nursing, then, proposes a definite curriculum of nursing topics, presents this curriculum in an interesting manner, associates it with practical work, makes definite requirements for entrance into the school and in the class room, maintains a grading system, and keeps necessary records for reference.

The successful school of nursing selects teachers for their knowledge of the subject, their ability to impart this knowledge, and the interest they take in the development of the woman and her education. Such a school also provides a follow-up system on the work of the student by grading her efficiency.

What are the results? The patients in the hospital show that they are well cared for, and there is an atmosphere of contentment among them, while the surroundings show thrift in time, effort, and materials. This general atmosphere is much appreciated by the wise medical man, who, in turn, assists to enforce these very conditions. The

nurse has developed poise, consideration, and thought for others, and an ability to meet emergencies successfully.

A spirit of harmony should exist in the student body, and this harmony of purpose will exist when the course of study, both in theory and practice, has been properly presented, when the student body sees the justice of the administration and can approve the living conditions. When these conditions are fulfilled in nursing education, then the nurse will be of more value to the community, and, in return, the community will be glad to respond to the constant demand of the school for suitable material to develop.

ITEMS IN HOSPITAL EFFICIENCY—NURSING OF PATIENTS.¹

The Doctor Treats the Disease—Nurse Should Care For Patient—Duties Not Complicated—Obedience of Orders First Rule—Small Hospital Better than Large for Nursing Care.

By JOHN A. HORNSBY, M. D.

IN this paper it is not intended to discuss nursing politics, or nursing ethics, or the morals of nursing, or the education of nurses, but to present a few thoughts concerning the nursing care of patients in the average modern hospital, under the average working conditions in those institutions, hampered, as many of them are, by scarcity of funds, and still more greatly hampered, as all of them are, by a scarcity of material for nurses.

Only the other day Dr. Walter L. Bierring, of the University of Iowa Medical School, in a paper read before the hospital section of the American Medical Association at Atlantic City, gave a happy definition of the relations between the patient, the doctor, and the nurse in these brief words: "The physician should treat the disease; the nurse should care for the patient." This seems to sum up almost the whole story. The doctor should have to do with the disease, should treat it, and should give all the orders for his patient to that end; the nurse, on the other hand, should take care of the patient according to the orders of the doctor.

Let us for a moment go through the various services of a general hospital and see what the nurse has to do, and what she should know in order to do it.

Let us take, first, the most important, or at least the most exacting, service—surgery. In the surgical service, under the direction of a trained superior, the nurse must prepare material to be used in the operating rooms and in the dressing rooms about the institution. The preparation of these materials is according to the formulas usu-

ally printed for each hospital, and not a great deal of training in this respect is required. The making up of packages for the drums and of combinations for the floors is not a serious matter, and requires only attention to business, so that the counts shall be right. But after the materials are all prepared they must be sterilized, and this is a technical operation for which the nurse should not be held accountable. How can she possibly know whether the temperature control on the sterilizers is correct? That is something for the engineer and for the superintendent of the hospital. The nurse must know by thumb rule how to turn the valve to bring about a certain reading on the dials, and by the same thumb rule she must know how long to keep up the process. These are not difficult duties, and do not require a great deal of training.

But there are duties in the surgical operating rooms that do require training, and the training to be had there is the same that must be employed in every other part of the hospital; so much so that it has sometimes been urged by hospital superintendents that the nurse should receive her first training in the surgical rooms. The objection to this is that the nurse should not be called on for the most arduous and technical and exacting duties until she has been in the institution long enough to become oriented and accustomed to the exciting incidents that she will meet there.

The surgical operating rooms have constantly to do with surgical cleanliness, and, once the nurse has learned how to make supplies and to act as "supe," she must begin her real training in the aseptic care of everything she touches. It naturally follows that the pupil nurse at this time

¹This is the fifth of a series of eight papers on hospital efficiency. Last month, "Hospital Diet;" next month, "Hygiene and Sanitation."

must know what asepsis is, but it would seem that this does not necessarily mean that she should know the life history, microscopic appearance, and pathogenesis of every organism to which at some time she may be introduced; but she ought to know enough about microorganisms to know that, if she comes in contact with fluids of any kind containing them she will be infected, and she should know also what chemical and physical agents are required to destroy these microorganisms. What difference does it make to her whether it is a streptococcus or a staphylococcus? For her purposes these microorganisms are practically the same. It would seem that she ought to know that there are two kinds of microorganisms—the spore-former and the nonspore-former. It is unnecessary that she should know which are pathogenic, because pathologists do not know that since a nonpathogenic microorganism may easily become pathogenic if planted in another field. She should know something about the spore-formers, because they require a much higher temperature, longer sustained, to destroy them; but even this knowledge is not quite so vital, because in the final analysis we do not sterilize against spore-formers, except in the matter of catgut, which, from its nature, is very likely to contain spore-formers, and is the only material used in the operating room that is likely to contain them.

The best way to teach nurses the little bacteriology it is necessary for them to know is for the teacher to take them to the operating rooms and illustrate the subject by having them clean their hands to a point of perfect sterility, take an impression on the slide from the sterile finger, and show them that there is nothing there; then have them put a sterile finger into their own mouths or on the floor and make another slide showing them that the finger is now infected. This is the best possible lesson to teach them the various modes of infection.

Then, they should be taught the various agents necessary to destroy these microorganisms, and almost invariably what will destroy one will destroy any of the nonspore-forming organisms.

With this information the pupil nurse should be able to unpack drums during the operation and hand sponges; she has learned to "supe" and to count sponges long before this. With this information, also, she should be able to take her part in the preparation of the patient; it seems almost unnecessary that pupil nurses should ever be called on to shave a patient. This service can be much better performed both for male and female patients by the intern or assistant surgeon who has charge of the preparation. Nurses do not shave well as a rule; they use poorly sharpened razors, and they abrade the skin, especially

about the female perineum and in places difficult to reach.

The rest of the duty of the nurse in the operating room is to learn the tray lists, and these lists she can learn from the printed forms in use in the hospital. The office of instrument nurse, when a nurse is employed for the purpose rather than an intern, requires only that the nurse shall know the instruments by name and that she shall retain her presence of mind under all circumstances, so that she can thread needles carefully. Her efficiency will be all the greater, of course, after she has learned to follow the surgeon sufficiently to know what instruments are needed in the next step, but this does not require technical training, nor does it require book education, and is only a matter of experience "on the job." It is in this office of instrument nurse that many excellent nurses are ruined past all cure, especially if the surgeons are impatient and discourteous. A nurse can be so frightened while trying to serve in this capacity that she will not only lose her presence of mind, but her self-confidence may depart, never to return. We hear it frequently said of a pupil nurse that she will never make a surgical nurse. Generally the reason for this is that the girl has not sufficient poise to retain her presence of mind under the exacting conditions of surgical service. Another reason why girls sometimes fail as surgical nurses is they are not honest, but the same girl will fail in any other department of the hospital, because she is the girl who will record a temperature not taken, or a dose of medicine not given. This girl in the surgical rooms will turn off the steam from the sterilizer before the time is up, or she will omit one or more of the fractional sterilizations of solutions.

IN THE SURGICAL WARD.—The care of surgical patients after they have returned from the operating room is the next most technical duty that a nurse has to perform. She must understand what surgical operation was performed on the patient. She should know what tissues were involved, so that she can prevent injury at the site of the wound, and prevent patients from attempting to move muscles or tissues that have been cut. She must know thoroughly the various boxes that are used for the performance of the minor surgical procedures in the wards, such as those used for administration of salt solutions, venesection, spinal puncture, and the administration of vaccines and serums, and she must know the morgue box and the use of its various contents. Her orders from the assistant or the surgeon or the head nurse will tell her what can be done for the patient and what must not be done. The rest of surgical nursing is a matter of common sense and experience.

IN THE OBSTETRICAL SERVICE.—Obstetrical work, from the nurse's standpoint, is very much like the surgical. She will learn by experience and drilling at the bedside how to hear heart sounds and how to aid the patient in delivery. Her asepsis will be the same; the preparation of the patient practically is the same as for vaginal surgery; the preparation of materials and solutions is the same. She has the additional duty in this department of learning to care for the infant and for the postpartum woman, the bathing of the baby, the cleansing of the mother, the care of the cord. These are readily learned by practice and by attention to the rules of the department. The rest of her service in this department, like other parts of the hospital, is a matter of common sense and mother wit, neither of which can be acquired by any amount of training.

IN THE CHILDREN'S DEPARTMENT.—While there are special needs of children and special methods of care, most of which the pupil nurse will have obtained before she arrives in that service, the pupil will have to learn in this department about infant feeding, the preparation of milk formulas, the principles of pasteurization and sterilization. Thirty days, a few hours each day, in the milk laboratories, working under a trained director and in accordance with simple rules, will teach her more than all the books ever written on the subject.

IN THE GENERAL WARDS.—To perform correctly the duty of a medicine nurse requires more book study and more preliminary education than any other service in the hospital. The medicine nurse must know dosage, especially of twenty-five or fifty commonly employed medicines, including the alkaloids. It has always seemed a wonder to me that I have never seen a dose book or a work on pharmacy at a medicine case in any hospital. The nurse must always know the dose, the physical characters, and properties of her medicines, or she must guess at them; and yet there is no medical man who attempts to retain a knowledge of the dosage of medicines, except the few he is in the habit of using. Why cannot the pupil nurse be accorded the same privilege of referring to one of the numerous and accurate dose books when an occasion requires? The medicine nurse must also know the tables of weights and measures, and she should know the decimal system as well as the apothecary's tables. These things she must learn from books, of course.

IN THE INFECTIOUS WARDS.—Nearly all infectious departments are now conducted according to rules in force in individual hospitals. We have learned so much that is new recently about the care of infectious diseases, and the sources of these infections, that the practice in this depart-

ment has not yet been standardized, but, after all, it is purely a question of surgical cleanliness. The pupil nurse should know that every one of these infections is caused by a microorganism, some of them as yet unidentified and unsegregated. She must know that the chief sources of infection are the discharges, and that these must be handled with gloves and destroyed. She must know that the skin and hands and body generally of the patient are probably infected, and she must know how to observe her surgical technic in the handling of an infected body, not only to prevent infection of herself, but to prevent the carrying of it to other patients and to outsiders.

ADJUNCT SERVICES.—About the only other service that the pupil nurse will have that requires a technical knowledge is in the department of dietetics, and the amount she learns will depend entirely on the hospital in which she works. Some hospitals confine their training of nurses in dietetics to teaching them a little about ordinary foods and nothing of the chemistry of foods or the physiology of digestion. Such a paper as this cannot be expected to be of value in outlining the training of pupil nurses in a hospital that realizes what the scientific dietary stands for; suffice it to say that the feeding of patients from the main kitchen of the hospital under the direction either of a cook or of most floor head nurses has no value to the pupil nurse from the standpoint of hospital dietetics.

PHYSICAL THERAPY.—Unfortunately we have not begun to train the pupil nurse in the employment of the various agencies of physical therapy. We must begin to do so soon, because the modern physician is using less medicine as medical science advances, and he is doing more for his patients by way of special feeding and physical therapy. Presently we shall have to begin giving our pupil nurses a regular service in whatever physical therapy department the hospital provides. The pupil nurse should know about hot packs, cold packs, continuous baths, the Nauheim, the douches and showers and salt rubs, and how to give these when they are ordered by a doctor. She should know sufficient of the principles of massage to be able to give bed treatment to a patient under a doctor's orders, although it is not intended that any nurse should exercise the functions of a finished masseuse. If she knows how to rub the pain of a neuralgia away, how to rub a joint that is rheumatic, how to knead a group of muscles, it will sometimes be a great help to her, especially in the home nursing of patients, and this training ought to be given at the hospital.

LABORATORY WORK OF NURSES.—Some day, let us hope in the not far distant future, when nurses are divided into two classes—first, those trained

to a high technical degree and who have had a fine preliminary education, and, second, those who have been deprived of early advantages and merely learned the hospital methods of nursing patients—we shall have trained nurses in private practice and in out-patient service who can make urinalyses, take blood counts, take the blood pressure, and determine the hemoglobin. An occasional one of these private nurses will, of her own initiative, learn bacteriology, so that she can identify throat and vaginal cultures and smears. A good many physicians in the large cities, men who have large practices, have their own medical assistants, but a very much larger proportion are not so fortunately situated, and the nurse who can perform these laboratory offices for the physician will have increased her value tremendously.

CONCLUSION.—We have now briefly run over some of the items in the training of pupil nurses. To what extent may the modern physician, practicing in the modern hospital, call on pupil nurses for assistance in the care of his patient? This is coming to be a most momentous question, and it is one of the many reasons why it requires more nurses to take care of a given number of patients than was formerly the case. The modern physician is expecting more for his patient, because the modern science of medicine has taught him the value of more things that may be done. It is no uncommon thing for a surgeon to operate on several free-ward patients in the course of a morning, and leave enough orders for the day to occupy two or three nurses with each patient—irrigations of all kinds, hot and cold external applications, hypodermics, half-hour temperatures, changes of wet dressings, and the like.

The obstetrician in the hospital will almost invariably need two or even three pupil nurses for each delivery, and in the last hours will usually keep them all busy. This is accounted for by the necessity for asepsis during the examinations and during the progress of the case.

In the children's department the feeding of patients is requiring more nurses all the time, because we recognize the value of having the feedings at the correct temperature, and that sick children must not be hurried in their feedings. An infant should have at least fifteen minutes for each two-hour feeding, and we might add five or ten minutes more for the warming and preparation of the foods. Under such conditions one nurse cannot care for very many children when her other duties are considered.

If these duties mean anything, even in their simplest form, they mean that nearly every hospital in this country is short of nurses; but it is a very serious question whether this shortage is

to be cured in the near future, and it certainly is not to be cured if the standard of admission of pupil nurses is to be raised to a point where there are not enough young women to go around.

Then, what is to be done? Obviously the duties of pupil nurses must be made simpler, less exacting, and less time consuming. Thus the matter is fairly presented to the medical profession. It is not an uncommon thing for medical men to give an order for their patients contemplating hours of time of one or more nurses, when the service is not really necessary. Medical men should exercise more care and more consideration in laying work on the pupil nurses in the hospitals, and they should also help to train these young women and help them in their work rather than find fault with them about its faulty performance. In nearly every training school there is a want of cooperation between the medical men and the training school, and especially is this true of interns. These young men seem to take special delight in ordering all sorts of petty attentions to patients that are time consuming, and neither of value nor comfort to the patient. It is impossible in a paper like this to point out specific unnecessary duties with which medical men burden their pupil nurses; but if this paper serves no other purpose than to call the attention of medical men to a necessity on their part to help cut down the work of the nurses in the hospital, it will have served a most useful purpose. And on this question of training, and cooperation, and help, between the medical men and the pupil nurses, just a word about the relative value of training in large and in small hospitals. It has been said by some that a nurse cannot be properly trained in a small hospital, and by others that she can be trained better in a small than in a large institution. Does it not seem that there are advantages both ways? In the small hospital, while there is not nearly so much material perhaps, the training of the nurse can be more nearly individual—there is of necessity a closer contact between the nurses and their teachers in the training school. In the larger hospital there is not only more material, but there are usually more and perhaps more specialized teachers—women who have been trained in the art of teaching, and medical men who have had larger experience in teaching than most of those in small institutions. So it may be very seriously doubted whether the large hospital has much advantage over the small in the matter of training of pupil nurses.

It is estimated that 15,000 persons visited the new \$500,000 building of St. Elizabeth's Hospital at Covington, Ky., when it was opened for public inspection August 2. The structure is four stories high and covers an entire block. There are 270 beds for adults and 60 for children, besides forty single rooms. The equipment is new.

FEEDING THE HOSPITAL—INTRODUCTION.¹

Conduct of Institution Commissary Means Close and Careful Buying as to Quantity, Quality, and Price; Proper Storage and Care, Methodical Distribution, Scientific Preparation, and Prompt and Attractive Service—Buying From the Jobber and the House With a "Pull"—Ideal Storage—Things That Will "Keep"—Definition of a Good Cook.

BY MISS LULU GRAVES,

CHIEF DIETITIAN, LAKESIDE HOSPITAL, CLEVELAND; RECENTLY DIETITIAN COOK COUNTY HOSPITAL; FORMERLY HEAD DIETITIAN MICHAEL REESE HOSPITAL, CHICAGO.

FORMERLY it was a common custom among wholesale dealers to dispose of their less desirable products to institutions, and it was usually a safe procedure, as there was no one with authority who took either time or trouble to pass judgment on the food materials when delivered, or to see that they received the proper treatment after delivery.

This gave to the wholesale dealer the same opportunity to dispose of much of his stock that might otherwise mean a loss, as is given to the retail dealer by the family which orders the day's supplies by telephone or sends a child out to the store to do the purchasing.

I am glad to say, however, that in both homes and institutions which are being conducted on a truly business basis, with standards of efficiency and economy, these methods are no longer prevalent. As every person, sick or well, connected with an institution in any capacity must eat, it is a self-evident fact that the commissary department is one of the most important, and must be given the same intelligent thought that is given to any department of the whole organization.

The foundation of a well-ordered commissary department is judicious buying. Buying judiciously means not only buying food materials of a desirable quality, and which contain the proper nutritive values for the needs of the people to be fed, at a reasonable price, but also keeping qualities and storage facilities must be considered, as well as discounts offered for cash or prompt payment of bills.

As the keeping qualities depend so much on the storage facilities, the two cannot well be separated. In the majority of hospitals and other public institutions the store room is apt to be space in the basement which cannot be utilized for any other purpose, or which remains after all other rooms are provided. If there happens to be ventilation in this room, well and good; if not, it will do very well for a store room anyway—is the general decision. This in itself is very poor economy. We are all well aware that a dark, damp room is conducive to the growth of molds and

other forms of microorganisms which may cause the rapid deterioration of fruits and vegetables, either fresh or dried, and also that it is very difficult to keep such a room free from vermin.

Fruits and vegetables should be kept in a room that is not only well ventilated, but through which currents of air of a fairly even temperature are passing. In one of our larger hospitals in the East some attention has been given to finding the best temperatures for storage. They have concluded that most vegetables keep best at a temperature of 42° F., but that potatoes are better kept at a temperature of 60° F., and sweet potatoes at 70° F. If proper conditions are not maintained in the store room, fruits and vegetables must be closely watched, and the overripe or defective be frequently sorted out, and thus through much handling is added one more cause for rapid decay, not to mention the extra labor involved.

Cereals are very difficult to keep in a warm room unless in sealed packages, and this makes them considerably more expensive. The prepared cereals, particularly, are apt to become "wormy," even in sealed packages, and others may become rancid. Flour will keep better in cloth than in barrels. Dried fruits, too, may become "wormy" or "musty." In fact, there are few, if any, staple articles which are commonly kept in the supply room which do not keep better in a clean, dry, well-lighted, well-ventilated room, even though they may not actually spoil elsewhere. Moreover, I think we are all inclined, and not without reason, to associate a dark, damp room with mice, roaches, and other vermin, so that naturally we dislike to associate our food materials with that kind of a place.

Besides temperature, ventilation, and light, another important feature of a store room is space. If the conditions are favorable for keeping supplies, it is of great advantage to be able to buy in large quantities; particularly is this true of apples, potatoes, and all vegetables that can be bought for a much lower price at the time they are being gathered and stored for use during winter.

If enough business is given to them to warrant their doing so, some of our larger firms will in-

¹This is the first of a series of papers on the general subject of "Feeding the Hospital." Next month, "The Food."

form their buyers when the probable lowest price for the season on a particular article has been reached, or advise them as to when it is a propitious time to buy. This is known as "protecting" the customer. We are all of us apt to make mistakes at times, however, and occasionally it happens that the buyer is not protected, but at any rate he is on an equal footing with the merchant, and the odds are in his favor the greater number of times. On the other hand, giving orders to more than one firm creates a competition, and on the whole is a better plan, provided there be more than one firm available furnishing desirable products.

The lowest-priced article is not always the most economical purchase. For example, there is more economy in buying select apples at \$5.00 per barrel than in buying an inferior quality at \$4.00 or \$4.25, which may, and probably do, contain enough wormy or decayed apples to make the price really equal that of the better grade, or in which the flavor of those that are "specked" may be so much less agreeable that they should be classed as inferior.

Buying from a jobber is like buying from a bargain counter. If one is familiar enough with the article to be sure of his own judgment, a very good bargain may often be found, but promiscuous buying from a jobber is apt to result in one finding that in the end the original saving has been counteracted by the loss in spoiled or inferior goods received from time to time. Again, buying in "job lots" is apt to lead one into buying, at times, more than is really needed; then, in trying to use up the extra quantity, too frequent repetitions of that one food leads to dissatisfaction among the people to be fed, and often to creating an antipathy for that particular food, making it difficult to use it at a later time. Even a more unsatisfactory thing than buying from a jobber is to have to buy from some one who has influence in the hospital—a trustee or a trustee's brother-in-law. In such a case, even the best buyer is utterly helpless, and after a few experiences will usually decide to take what is sent to the hospital from the favored house, and blindly O. K. the bills at the end of the month, with a feeling that she is bound and gagged and not strong enough to even struggle.

In some of the eastern markets the "unit system" is used. For instance, a specified number of barrels of sugar constitute one unit, and a certain percentage of discount is given on the unit; no further discount is given, no matter if one buys ten times that number of barrels. In these markets, of course, there is no advantage in buying more than one unit at a time, except it might be to save the trouble of more frequent ordering.

With the limited facilities for storage in the average hospital, however, frequent ordering would be much less of a difficulty than caring for the larger quantity.

The demand for fresh fruits and vegetables in all seasons of the year makes it necessary for them to be grown in unnatural conditions, ripened artificially, and some of them transported long distances. Most of our food material in the cities is handled by many different people before it reaches the consumer. All of these things may affect its condition or its desirability, more or less, and mean much to the person who is ill or has an impaired appetite or digestion. Unripe fruits or vegetables have a large percent of starch in a state which makes it difficult of digestion. On the other hand, if overripe—because of the sugars and moisture they contain—they furnish a good medium for the growth of bacteria, which may form objectionable products.

Meats may be kept in very good condition for a reasonable length of time in cold storage, but if kept long at a higher temperature when taken into the retail market they deteriorate very rapidly. This is especially true of fish and poultry, and the same thing can be said of eggs.

Though a buyer knows all of these essential things about his institution, markets, and food materials, he is not yet completely equipped until he knows what can and what will happen to these food materials when cooked and served. The very best that the market affords may be purchased, and through improper cooking so much of the flavor and nutritive value be lost that it will be served as a tasteless, unattractive dish, from which the human body is able to assimilate very little, and which palls on the appetite and upsets the digestion.

It has been my experience that many of the people employed in the kitchens of our hospitals are inclined to give very little thought to this important matter of using fresh or green food materials while still in their best condition, nor are many of them trained to cook things in such a way that the flavors are properly developed or retained, or that their greatest food value and digestibility are obtained.

I might digress just a little here to say that the cooks are not altogether to blame for this. In employing a cook, the hospital will almost invariably ask for experience or ability to cook, rather than ask for knowledge of cooking—or perhaps it is better to say neglecting to ask for the knowledge as well as the experience. A cook who has had many years' experience began his career before food values or food composition were subjects for study, and because he has done a thing for twenty years, and it has passed muster, to him it

is the proper way to do it, and his ability to cook is proportionate to the quantities of these things he has prepared during the twenty years.

Our larger hotels and restaurants are paying their cooks more than our hospitals of corresponding size, and asking of them chiefly that they serve food highly seasoned—usually at the sacrifice of natural flavor—accompanied by rich sauces and elaborately garnished. But in which of these hotels or restaurants can you get a potato which is well cooked, yet dry and mealy, or a “boiled” egg that is evenly cooked and tender, or a vegetable that is not swimming in fat, or a salad that is really crisp? It is true that this very feature of hotels and restaurants does much to furnish patronage for the hospitals, but it is the business of the hospital to remedy it in so far as possible.

What inducement, then, shall we offer in order to make it worth the while of our cooks to learn how food should be prepared in order to make the most of its nutritive value and at the same time not interfere with its digestibility? One step is to raise the status of the profession, and that will be a long and slow process; another and greater inducement will be to pay more salary and thereby get more competent people. At present it seems to be the part of the trained dietitian to accomplish what she can in the way of proper preparation and serving of food with, in many instances, not only inconvenient working quarters and inadequate help, but often an utter indifference of long standing, if not open opposition—not only in the kitchen, but from other departments as well.

In addition to the problems of buying, storing, and cooking of food materials comes the question of properly utilizing or distributing them. If meat is bought by the carcass, where shall the more nourishing cuts be used and where those cuts which have more delicate flavor? What shall be done with the cuts from parts of the animal most exercised, consequently with harder muscle, fiber, and connective tissue, yet with a good percent of nourishment. Fruits and vegetables are not always delivered in the most desirable condition. What shall be done with that which is over-ripe or too green for the purpose planned?

How are the left-overs to be utilized so as to be really economical? Often there is a small amount of meat, vegetable, fruit, or pudding remaining, though not enough to serve all who eat in one dining room or ward. Shall we have such a routine established that these cannot be served to the people for whom they were originally planned? Or shall they be eaten by the employees in the kitchen—perhaps in addition to their regular meal? Shall they be kept very religiously for a few days and then disposed of in some wasteful manner? A small quantity of material wasted

here, a small amount not utilized there, may in a short time aggregate quite a large sum. Where shall we make “good solid food” the first thought, and economize on time, and where shall we give more time to making daintiness and attractiveness the greater consideration?

The tendency on the part of the people employed in our kitchens has been to have a set of menus or dishes with which they were thoroughly familiar, and continue to use them indefinitely, thus giving institutional food its present reputation for sameness and unattractiveness. People go into an institution holding this prejudice and with their minds made up to be critical, and in most of hospitals they are not disappointed.

One who attempts to introduce variety into the diet and instill into the employees in the kitchen the proper attitude toward a judicious use of all food materials, at the same time instilling into the people being fed an attitude of respect rather than criticism, has a most prodigious task, one that will require much time and patience, but it is one worth while.

Work was started last month on a group of new buildings for the Brooklyn (N. Y.) Hospital, at DeKalb avenue and Raymond street. The present Low Maternity building will form the nucleus of the new plant. It will be remodeled and will stand as the central structure, from which will radiate two main pavilions, a nurses' home, a central heating plant, and a service building. Corridors on either side of the Low Maternity, which is to contain the administration offices and the main operating room, will connect the two pavilions on each floor. The pavilions will consist of four stories and basement, with roof gardens. All of the new buildings will be of red brick and terra-cotta, with limestone trimmings. The hospital will have 225 beds for patients, including thirty-five private rooms and private wards for 38 patients. A balcony is provided for each room and for both the private and public wards. The main roof garden is to be so constructed that patients who require it may be treated there during their entire stay at the institution. There will be a separate roof garden for children. The new group will have its own electric plant, refrigerating plant, and an up-to-date vacuum system. It is estimated that the improvements will cost over \$700,000.

The private sanatorium being erected at El Paso, Tex., by Dr. C. M. Hendricks, of El Paso, and R. D. Harvey, of Cleveland, Ohio, will cost \$75,000, and promises to be one of the most modern institutions of its kind in the country. The building will be of the mission style of architecture and fireproof. It will be constructed of hollow tile, with reinforced concrete floors and metal tile roof. The interior will be finished in stucco. The main building will measure 220x60 feet and will be three stories high. The wings will be two stories in height, and the rear wing, which will include the kitchen and dining room, will be separated from the main building to prevent kitchen odors from penetrating the living apartments. This rear wing will measure 60x60 feet. There will be sixty rooms in the sanatorium, each to be connected with a screened and canopied sleeping porch and have a private bath. Practically all of the baths will be showers. The only tubs in the building will be those for special treatments. The floors and bases will be of cement, and will have cove corners to prevent the lodgment of dust and germs. All doors will be flush, and the molding and panels and other obstructions have been eliminated from the interior to increase the possibilities for cleanliness. The interior walls and woodwork will be white enamel.

THE EVANSTON GENERAL HOSPITAL'S CONTAGIOUS PAVILION.

Surgical Cleanliness Made the Test of Integrity in the Isolation, but Physical Segregation Provided For—Convenience and Economy of Administration Predicated in the Architecture—Some Plans and Views.

BY MEYER J. STURM, CHICAGO, ARCHITECT.

THE rapid development of the scientific treatment of contagious diseases has given rise to the necessity for designing hospitals to keep pace with such development. Herewith is given a plan of such an institution, wherein a highly developed technic for the handling of communicable diseases has been instituted. In a few words, this technic consists of the necessity for an attendant, or any one coming in contact with the patients or anything in the room, to be surgically clean before going to another patient. If an attendant does not touch anything in the room, then the hands are considered sterile if they were sterile before the attendant entered the room.

Every arrangement has been made to carry out this technic strictly. When the doctors, nurses, female help, or orderlies enter the hospital, they go respectively to the rooms marked 45, 35, 24, and 26, remove their outer garments and put on a gown which is worn throughout the day in the hospital. These gowns are sterile. The attendant is then ready to go on duty, and if, when they are entering a room, it is necessary to touch the patient or anything in the room, they put on a second gown over this first gown, and in some cases rubber gloves, and, when they are leaving the room after a patient has been taken care of, the gown is first taken off, the hands sterilized under the ordinary method of sterilization, and they are then ready to go about their duty to other patients.

The corridors, diet kitchens, service rooms, and nurses' quarters are considered neutral. Every provision has, however, been made on each floor, the second floor being typical of the third and fourth floors, so that every floor can be practically divided into two separate hospitals, so that any one disease can be treated in that portion and separately isolated if necessary.

The admission of patients is done through the receiving rooms 5 and 7, the patient being taken into the bath rooms 6 and 8, respectively, and given an entry bath, and then put into the observation wards marked 4 and 9, respectively, until a thorough diagnosis of the case has been made. If the case is fully developed and diagnosed, the patient is taken indirectly to the ambulance entrance door, through hall 14 to the elevator, and up into the hospital, and to the room or ward, as the case may be. The patient's clothes are taken

into the disinfecting plant in the basement, and, after they are disinfected, put into locker room 50 and kept there until the patient is discharged.

When discharging the patient, the friends come into entrance 52 and lobby 51, the patient is brought to the discharging room 47, disrobed, given an emergent bath, the clothes are brought from the locker room to the discharging room, or, if the clothes have been destroyed, the friends or parents bring the clothes to the waiting room 48, the nurse taking them into the discharging room, and the patient is robed and sent out through the lobby.

All those who have business to transact in the hospital come in by the front entrance to lobby 39, the attendant in the general office having control of all the doors on the entire floor through automatic door openers electrically controlled, so that no one can get into any part of the hospital from the public spaces without the consent of the general office attendant. The remainder of the first floor is plainly designated. A viewing room, which is also the autopsy room, marked 13, and a chapel (12) is provided. The chapel is separated from the viewing room by large plate glass opening, the friends coming in through hall 18 and entering the chapel.

Figure 3 is one of the rooms, showing the wash-up sink and the viewing window. All rooms and wards have these viewing windows, and as far as possible they are put opposite each other, so the children can look across and see the children in the other rooms. The cut-offs in the corridor are shown on the second floor plan.

Each floor is provided with one 4-bed ward and two 2-bed wards, and a number of private rooms, some in suites with bath, the plan being practically symmetrical about a central axis, except for the large ward at the center of the building.

The elevator, linen supply room, the nurses' station, and the operating room on each floor are in the central neutral area. All corridors are considered neutral area also. Each end of the building, moreover, is provided with its own service and toilet rooms.

There is a dish sterilizing room, into which all dishes and utensils used on the floor are taken, being put into the dish sterilizer on the dish sterilizing room side, where there is an opening between this room and the diet kitchen. The steril-



Fig. 1. Evanston General Hospital—Isolation pavilion. Typical patients' floor plan.

izer is operated by hydraulic lifts, so that the infected dishes can be put in on the dish sterilizing room side and sterilized, and the attendant on the diet kitchen side operates the foot pedal and the dishes are brought up on the trays, hydraulically taken off, and washed in the diet kitchen and are

again ready for distribution. All refuse is put into watertight paper bags and destroyed by burning.

At either end of the building for the private rooms where there are suites there are large sun porches provided within the area of the building.



Fig. 2. Evanston General Hospital—Isolation pavilion. First floor plan.

All other rooms in the building throughout have large porches, so that every patient in the hospital can be given outdoor treatment.

Every room and every ward is provided with a wash-up sink. Special provision has been made for the sterilization of all bed pans, a feature in this connection being the combination bed-pan rack and blanket warmer, in which only one set of coils is necessary, where all the blankets are not only in a special cabinet, but are also kept warm, and at the same time the bed pans are kept dry and at the proper temperature.

At each nurse's station there is a medicine cabinet, with sink, and here there are also the house telephone, public telephone, and relay signal system station. The signaling of nurses is selective for each end separately and for the ward separately, indicating in the diet kitchen and in both service room, and at the same time indicating at

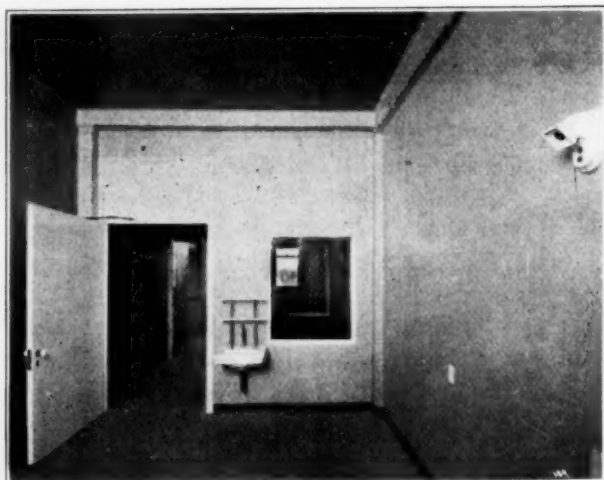


Fig. 3. Evanston General Hospital—Isolation pavilion, showing corridor and room beyond.

the nurses' station. In addition to the indication of the floor lights at the nurses' station, each floor is indicated on the other floors, respectively, at this station, showing the exact location on each floor from which the call has come, the entire signaling being selective by location and color, so that the night nurse, being on any floor, will know immediately from what section of any other floor the call has been made.

The entire building is absolutely fireproof. As much cleaning and sterilization is necessary in the hospital, every precaution has been taken to minimize the amount of work necessary, and also in order that there will be the least wear and tear on the building and its contents. The exposed plumbing throughout the building is, therefore, made in white metal instead of the ordinary nickel-plated brass, and all of the fixtures are either porcelain or vitreous china. All water closets are of the wall-hanging type, and all tubs,

except those which stand entirely free on all four sides, are built in.

The operating room walls are lined up to a height of 6 feet with vitrolite, and above this they are painted. All walls and ceilings throughout the entire hospital are heavily enameled. The floors of the first floor corridor are 8x8-inch compressed tile; all stairs, stair halls, elevator halls, and all other floors on the first floor are in flake mosaic, except in the doctors' consultation room (44), the head nurse's sitting room (37), and the interns' and orderlies' bed rooms, which are of linoleum.

On the second floor the floors in the two sun porches, toilet room, bath rooms, service rooms, diet kitchens, and operating rooms are of cork tile. The remainder of the floors, except in the stair hall and elevator hall, are 6 mm. battleship linoleum.

The heating of the building is done on forced circulation hot water, and there is a large central plant for this purpose. All of the ordinary food supplies for the building are taken from a service kitchen, which is centrally located on the grounds. All of the buildings in the group of hospitals to which this is attached—the Evanston Hospital—are connected from this main service building by large tunnels for the purpose of conveying food. Food is carried through the several buildings by automatic electric dumbwaiters, sufficiently large to take a food cart for this purpose.

An operating department which will represent the last word in sanitation is being fitted up for the Battle Creek (Mich.) Sanitarium. The walls and ceilings of the rooms and corridors will be covered with polished glass, and the floors will be of smooth porcelain. The use of glass will make it possible to wash the walls and ceiling by shooting streams of hot water over them, thus killing whatever germs may accumulate. All air passing into the operating room will be filtered and washed.

The Baptists of South Carolina, who recently purchased the Colonia Hotel, with two acres of land, at Columbia, for the purpose of establishing a hospital, have recently negotiated a deal by which they come into possession of the Knowlton Infirmary at Columbia, a private institution built and conducted by the late Dr. A. B. Knowlton. It is understood to be the plan of the church to use the Knowlton institution as a temporary hospital, awaiting the erection of a larger and more modern building. It is probable that the hotel property will be converted into a home and school for the nurses in training.

The J. S. & W. M. Rice Lumber Company, of Ward, Louisiana, has enough confidence in a pellagra cure which Dr. A. L. Chapman of that place appears to have discovered that it is building a sanitarium in which the cure may be further demonstrated. About two years ago, it is reported, a patient from Texas came to Dr. Chapman with a case of pellagra in the advanced stage. Up to that time the doctor had not treated a case of pellagra, and he took a great deal of interest in this one. The patient recovered speedily, and since then, it is said, many others have come him and been cured. Officials of the lumber company assert that they are not going into the venture with the view of making money out of it, but they feel that if Dr. Chapman continues to meet with the success of which his work so far has given evidence, he can do a great work for humanity, and should have proper facilities for the treatment and close observation of his patients.

PLANNING FOR HEALTH—THE PRESSING PROBLEM.¹

Hospitals Are Undeveloped—Must Broaden Out Into Comprehensive Health Centers—A Few Good Hospitals Better Than Many Poor Ones—Wise and Sympathetic Leadership Demanded—Land to Be Needed For the New Era—Conveniences of Travel For Rural Communities Must be Better—Road Building is Health Building.

By FREDERIC BRUSH, M. D.,

SUPERINTENDENT BURKE FOUNDATION FOR CONVALESCENTS, NEW YORK CITY.

THE unifying of health agencies is a pleasing subject, but there "ain't no sich animal." There's a promising menagerie. It's like my getting out a certain beautiful plan for new communal and unified living in my old home section. I went early with it to the strong man there—Rufus Shutts. Rufe has a brain-case like the mummy of Rameses II.

"That's fine," said Rufe; "that's what I call about perfection." Then he waited; I waited. He went on: "It's all right except for one thing—there ain't been quite *time* enough since your ancestors liked to serve up their wives' relations for Thanksgiving dinner."

So, distressing as it may be, we'll drop that part of the title—or, rather, leave it, an inspiring sign—and go round awhile, as we have to do somewhat in health planning and health work. Let us consider, then, *planning for health*—correlations later.

All along it is well to have some working conclusions about governmental health agencies as distinguished from the corporate ones, as municipal hospitals vs. so-called private corporate hospitals; health boards and private associations for improving this or that. Shall energies and dollars henceforth go more to the government agencies or to the private, with their usual public functions? This question underlies all your planning and work.

The answer is, from years' experience in the many states: so individualistic are we and so unsatisfactory in our local governments (city especially) that somewhat the larger part of health progress for years yet must be accomplished through these semi-private corporate, rather peculiarly American, bodies. But government health institutions are going to gain, and all plans should aim to advance and increase them as rapidly as better citizenship leads safely. Then, as strong governmental agencies take on more of the work, private corporate effort finds abundant continuing field in experiment, path-finding, inspiring, gap-filling, watch-dogging, policing, coordinating.

Correlation will come, then, not much from saying, "You and you and you are now to correlate,"

but through health-work, doing and done, better—until the faulty-weak and the misplaced and the culpable are overspread, or drawn in to help.

We come to the question of centers of action. How many? which? where? There will be fewer twenty years hence. First two are health board and hospital. To get on today, we must assume here a state health department, with adequate money and powers, directing health matters from Back Bay to the western crossroads. Successful planning for the state's health assumes this.

The hospital is yet underrated and underutilized. Most of them could double, and some quadruple, their efficiencies, and without much more building. These newer values are coming through the auxiliary services—the *home and community extensions of the hospital*; some of them—laboratory, social service, tuberculosis prevention, infant saving, district nursing, care of convalescents, aged infirm, chronics, genitourinary diseases, early nerve and mental weakenings, physical therapy, training handicapped, and, most important, the dispensary.

This extension work is only started. Remarkable economies and achievements are already showing. First-class dispensary treatment, with follow-up, costs about 50 cents per patient per day; bed treatment, \$2.50; and the first quite largely replaces the second. And money may be got more readily for these special activities. Tell the givers there are now better things to endow than beds. Through these arms your moderate-sized hospital on the hill may reach to the farthest borders of the community, handing out health, and correlation grows best in this extension field.

Health planners have a duty and opportunity in seeing that new hospitals shall be rightly sized and located and equipped—even preventing some and bringing consolidations and cooperations. Hospital survey of the state, determining needs, locations, overlappings, unjust burdens, etc., would get hospital standardization in a state while we talk and write about it for the nation. Which brings us to heads—leaders, trained workers. They're scarce. It's a young vocation. Health planning here first catches its toe. But they must be got—and given more pay and power and honor than in the past. Plan fewer main

¹Extract of a paper read before the first mass meeting of City and Town Planning Conference at Boston.

heads. A competent person sooner than any system brings correlation into a wide district.

Have more women do health work. A woman marries one of these jobs. A man takes it, and keeps an eye westward—or over the fence. The woman mothers her community; the man tries to “man-age” it. If she divorces the job, ’tis to marry another, better, of same species. Sometimes she wavers temporarily to marry a man—more or less; even then she is not lost, but through life goes on doing communal work. Ransack your state, and see them first in other states, to fill these places—from hospital and health board heads to \$7-a-week farm nursing.

Conclusions.—Correlation of health efforts, gradually through work, backed by authority, with stronger heads and hospitals, and hospital extensions. The tools are here, mostly in hand. Not the poor nor the rich, but the people of moderate means, the middle-class majority, are most in need of public health aids. Accept and extend the principle of the patient’s paying reasonably and increasingly for services.

The main first gap is lack of means for control of the disease carriers—tuberculous, venereal, typhoid, throat and nose, etc.

Plans.—In your four or five large population centers, (1) advance the municipal hospitals; (2) build also on the best corporate ones; (3) extend the arms of the hospital, especially the dispensary—substations and dispensaries, better than reduplications of weak hospitals; (4) get land within thirty miles of the center—it will be needed in health-making sooner than is thought.

The Smaller City.—(1) Early consider the municipal hospital—attach to it, or to the corporate in its stead, most of the big city auxiliaries; (2) plan into it, under one head, many of the special departments—for convalescents, chronics, genitourinary, the aged infirm, handicapped, etc.; (3) land outside the city will be needed—some one will give it.

The Rural Community.—(1) Nearly all country life betterments now depend on getting more people together more—done only by having them travel farther; road-building is health-building, so the new town or county hospital should be planned to serve a wide territory, affording standard equipment, the extension services (home-nursing especially), and be health headquarters. (2) Rural public opinion awaits patient, organized effort to its right awakening; some coercion here and there will prove salutary; the most pressing health problems are now in this field.

A large dam is being built across the North Concho river near Carlsbad, Tex. The purpose of the structure is to store water for the Texas tuberculosis sanitarium located at Carlsbad.

CARE OF THE FEEBLE-MINDED.

Institutional Segregation Denied to 133,000 Children Who Menace Posterity—Defective Girls of Child-Bearing Age Are Greatest Danger—Dr. Hart’s Sane Views.

BY OUR NEW YORK CORRESPONDENT.

The menace of the feeble-minded to our own and future generations, through the seemingly impossible problem of segregation, has only during the past decade received the attention its magnitude demands. This question past generations have neglected, in the futile hope of its elimination through the law of “the survival of the fittest.”

Today, thanks to the Binet system of psychological test, supplemented by the tests of Doctors Huey, Healy, and others, we are beginning to realize its grave importance. Applying these tests to the children in our public schools, experts tell us that at least 2 percent are mentally defective. New York City alone, according to the estimate, has 15,000 feeble-minded children in the public schools.

Conservative authorities have placed the number of feeble-minded persons in the United States at 200,000, and estimated that this class constitutes one-fourth of the population of our prisons and reformatories. The present capacity of our institutions for the feeble-minded is about 20,000; almshouses contain about 16,000, and there are in the neighborhood of 5,000 in institutions for the insane. The total number receiving public care in the United States, according to competent authorities, is about 67,000, thus leaving, at a low estimate, 133,000 without institutional advantages or control.

Are these unfortunates on the increase? The Royal Commission of England came to the conclusion, after four years of study of this problem, that they were increasing at twice the rate of the general population. Careful investigation has shown that at least two-thirds of the feeble-minded children are of feeble-minded parents, or grandparents, or both. Dr. Henry H. Goddard, of New Jersey, does not believe that any “truly feeble-minded child was ever cured,” and other competent authorities agree with him in saying “that it is useless to try to develop the latent mentality of feeble-minded children, because it does not exist.”

What steps have been taken or remedies proposed for a solution of this problem that threatens the very foundation of society? Sterilization has long been advocated by many penologists and alienists as the one certain preventive measure. Eight of our states have passed laws providing for sterilization of certain classes of defectives, but in only one are they enforced. This remedy can be only of restricted service until public sentiment is developed to sustain the execution of such laws—perhaps in two generations, or until something better offers. Restrictive marriage laws have demonstrated that their influence can be only partial, inasmuch as these defectives reproduce their kind regardless of marriage, and in far greater number than normal people. Segregation, that is proving so practical and effective for the insane, remains, in spite of the magnitude of the undertaking, the one available solution. We must not forget that thirty years ago the segregation of the insane seemed equally impossible.

Dr. Hastings H. Hart, director of the Department of Child-Helping of the Russell Sage Foundation, has for years been indefatigable in his efforts to find a working program to meet the problem of mental defectives. He believes in legislation, to give the state absolute control, as is the case with the commitment of the insane, if real results are to come from segregation of the feeble-minded.

Since it is impossible to provide in the near future for all of this class, Dr. Hart is strongly advocating (1) that in every new institution for feeble-minded children preference be given in admissions to girls of child-bearing age, and (2) that every institution for feeble-minded children shall cease to receive girls under the age of twelve, or boys of any age, until every feeble-minded girl of child-bearing age is provided for.

CULTURE INCUBATORS FOR POLICE STATIONS.

Chicago Health Commissioner Saves Time and Hastens Work of Inspectors by Aid of Police.

The amount of work one can do must necessarily depend a good deal on various economies that may be practiced. Health inspectors in large cities are limited in the scope of their work by the territory they have to cover and the time it takes to get around. There are never enough inspectors allowed by the appropriations to do all the work the health officers know ought to be done, so any saving of time and labor must be welcomed. Moreover, time is often a very important element in the spread of a communicable disease.

Dr. George B. Young, commissioner of health of Chicago, has devised a little piece of technic that saves his inspectors a lot of time and labor, and gives them about twenty-four hours' earlier start to head off an epidemic or to make proper arrangements for a patient suffering from diphtheria. It consists of a line of incubators located in all the police stations of the city, which the inspectors use to start the incubation of their throat cultures. Dr. Young has kindly prepared the description of the technic as follows:

In handling diphtheria cultures, it has for a number of years been the practice of the Chicago health department to make use of the police stations as points of collection for diphtheria culture tubes, and of the police messenger service as a means of transportation from these points to the laboratory. The enormous area covered by the city of Chicago made some such method imperative; otherwise delays of a day or two might easily result from the time the culture was made to its being received at the laboratory, it being entirely impossible for the department to finance any system of collection from drug stores or other points of deposit. This method proved quite satisfactory, but still involved considerable delay between the time of taking the specimen and the time that it could be placed in an incubator in the department.



Fig. 1. Electrically operated incubator.

In the fall of 1913 the department determined to install incubators in all the police stations. We accordingly purchased forty-one electrically operated incubators (Fig. 1), each with an inside measurement of 10x10x10 inches, and

two incubators 24x18x17½ inches inside measurement. The price of the small size was \$15 and of the large size \$45.

We installed one of the small size in each of the police stations, except two stations where the character of the neighborhood and the size of the district necessitated the use of the larger size. The incubators were installed in such a way as to present a neat appearance, and are kept in accurate operation by means of an inspection service. Each incubator, before being installed, was carefully tested and standardized. The inspector in charge of maintaining the service makes regular rounds of the various stations and submits formal report on the following form:

INSPECTOR'S DAILY INCUBATOR REPORT.

1. Incubator No.
2. Precinct No.
3. Location
4. Date
5. Time..... a. m. p. m.
6. Temperature on arriving.....
7. Temperature when leaving.....
8. Number of bulbs dead.....
9. Number of bulbs replaced.....
10. Thermostat buzzing?.....
11. Current turned off?.....
12. Shelf in place?.....
13. Regulations on door?.....
14. When call again?.....
15. New thermostat installed?.....
16. How long have cultures found in incubator been there?.....

(Signed)

Supervising Medical Inspector.

Form H. D.—M. 574.

A card of instructions is attached to the inside of the door of each incubator, and a copy of this card has been embodied in a police order by the general superintendent of police, thus making the observance of the directions contained on the card obligatory on the members of the force:


DUTIES TO BE OBSERVED WITH REFERENCE TO HEALTH DEPARTMENT INCUBATORS INSTALLED IN POLICE STATIONS.

1. Incubators are to be kept running constantly.
2. Persons other than the authorized Health Department representative assigned to incubator inspection will under no circumstances be permitted to adjust the regulator or tamper in any way with the apparatus.
3. Officers will report at once by telephone to the Health Department, Main 447, Local 195, any of the following conditions:
 - (a) Carbon lamps burned out.
 - (b) Temperature of the thermometer—30° C. or above in the small incubators, or 32° C. or above in the large incubators.
 - (c) Apparatus out of order, as evidenced by buzzing or sparking at the thermostat, or by lights going out permanently.
4. Officers receiving cultures at the police stations will mark the hour of receipt and the date, together with the precinct number of the station, on the back of each single envelope or each package of envelopes, as the case may be, and place the envelope immediately in the incubator.
5. Deliveries of cultures to the City Hall will be made by the Police Department as heretofore as expeditiously as possible, particular effort being made in all cases to deliver cultures on the same day they are received. The Health Department is open for the receipt of cultures at all hours, night and day.

JAMES GLEASON,

General Superintendent of Police.

The messengers make from one to two trips a day from each police station to the City Hall, depending on the amount of business done by the precinct. As the hour at which the culture is received at the police station is stamped on the package, the clerk receiving the cultures at the laboratory is able to tell at a glance whether a further incubation period is necessary. In a large majority of instances no further time is necessary, and it is possible to pass the specimens on to the bacteriologists for examination as soon as they are received.



The
MODERN HOSPITAL

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Business Office Metropolitan Building, St. Louis

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Contributors, subscribers, and readers will find important information on advertising page 26.

Constructive Pan-American Quarantine.

The plea of THE MODERN HOSPITAL, in its leading editorial of last month, for a constructive Pan-American Quarantine, by way of a permanent international commission, has attracted wide attention, and in some quarters considerable surprise.

By some excellently well-informed people it had been generally understood that existing agreements between the nations of the Americas afforded all necessary provisions for a working quarantine. That this is not the case will easily be gleaned by a cursory glance at the present status of the matter.

The International Hygienic Congress of 1894 at Paris did little more than establish the then scientific status as to the sources, directions of communicability, and methods of prevention of yellow fever, plague, and cholera. Some recommendations were also made concerning the approaches to the problem by the various nations, but this conference ended its good offices at that point.

The second International Sanitary Convention of the American Republics, held in Washington, D. C., October 9-14, 1905, under the auspices of the Governing Board of the International Union of the American Republics, created and signed a code of sanitary rules governing all phases of quarantine, and these rules, after approval by the authorities of the several republics, have prevailed,

with minor changes by subsequent conventions, until the present time.

These rules are the finest possible expression of what a constructive quarantine should be and of the willingness of the American Republics to enter upon some desirable arrangement; but unfortunately the social and political relations between the participants were not such as would lend themselves to a plan of cooperative accomplishment—that is to say, each republic was in entire accord with the scientific dicta of the rules, but preferred to act on them independently. A few quotations from these regulations will develop this point more conclusively:

Art. I. Each Government should immediately notify other governments of the first appearance in its territory of authentic cases of plague, cholera, or yellow fever.

Art. II. This notification is to be accompanied, or very promptly followed, by the following additional information: 1, neighborhood where the disease has appeared; 2, date of its appearance, its origin and form; 3, number of established cases and number of deaths; 4, for plague—the existence among rats or mice of plague, or of an unusual mortality; for yellow fever—the existence of *Stegomyia fasciata* in the locality; 5, measures taken immediately after the first appearance.

The next few articles prescribe that the above information is to be conveyed through diplomatic or consular agents in the capital of the infected country, and that the information is to be conveyed at least weekly during the persistence of the disease; that the information must state just what prophylactic measures have been taken, including the inspection and disinfection of ships, destruction of rats, mosquitoes, etc.

Art. VIII. To limit the measures to the affected regions alone, governments should apply them only to persons and articles proceeding from the contaminated or infected areas. But this restriction, limited to the infected area, should be accepted only on the formal condition that the Government of the infected country shall take the necessary measures to prevent, unless previously disinfecting, the exportation of articles (named in Art. XII) coming from the contaminated area; and, 2, measures to prevent the extension of the epidemic; and provided further, that there be no doubt that the sanitary authorities of the infected country, have faithfully complied with Article I of this convention.

These quotations from the code are sufficient to make the point—namely, that the integrity of this quarantine is predicated, not only on independent action of a country hard pressed by distressful conditions and overanxious to mitigate the severity of a ruthless segregation from the rest of the world, and hence liable to minimize the state of affairs, but on the handling of an epidemic by men, perhaps in small ports, whose training, professional attainments, and judgment, in a pressing emergency, are unknown quantities.

Under the commission form proposed by THE

MODERN HOSPITAL, each republic would give into keeping of a regular service of its own Government the technical handling of a state of things within its own area, just as it would in the case of customs collections or revenue regulations, the only difference being that this business, equally important to all other countries, would be done under the iron hand of a technically trained and thoroughly responsible commission made up of representatives of all the countries, and that the individuals charged with the responsibilities of conducting the campaign in an outbreak would have been chosen for the work and thoroughly trained by the commission, itself made up of the best scientific and executive personnel that the several countries could offer.

Please let it be understood that the purpose of these editorials is to stimulate discussion in the next few months, so that the next Pan-American Sanitary Convention, which takes place in Montevideo in December, can be ready to formulate a concrete scheme of constructive quarantine that can be enforced—not for repressive segregation purposes, but to the end that there shall be an absolute confidence in the methods employed which will permit uninterrupted intercourse, no matter when or what happens.

A Story of Advertising.

When the preliminary arrangements for the launching of THE MODERN HOSPITAL were being considered, the subject of a practical advertising policy for the contemplated journal was discussed, and it was the opinion of those who were concerned in the undertaking that such a policy should be wrought out of actual experience rather than proclaimed in advance as a theory. As it seems proper at this time that our readers and advertisers also should know something concerning the methods pursued in the upbuilding of that which we consider an important part of the service of this publication, this little story is told on this, the first birthday anniversary of THE MODERN HOSPITAL.

The first number of THE MODERN HOSPITAL was received with such universal expressions of approval that even the most optimistic concerned in its production were completely surprised; the daily press spoke of it in terms of highest commendation, and the editorial comments of the scientific journals were full of praise. There were letters of appreciation from high official sources, equally welcome messages from men and women of recognized leadership in the hospital world; and, perhaps most gratifying of all, there were private letters from personal friends of the editors and publishers hailing the advent of the new serv-

ant of hospital efficiency with offers of cooperation that augured material aid in the ultimate realization of the great destiny predicted for it.

As these welcoming messages came pouring in, the editors and publishers realized that their work had been launched with a degree of success beyond their most sanguine hopes, and they realized something else—namely, that THE MODERN HOSPITAL had been accepted at more than what appeared to be its face value; that it had practically been charged with a great mission—leadership in the best and highest thought concerning that most essential province of human endeavor, the scientific relief of physical suffering and the cure of disease.

One night, the eve of Thanksgiving last, after several issues of THE MODERN HOSPITAL had been published, a meeting was held in the office of the journal. It was a serious gathering, each member appearing somewhat awed at the unexpected proportions of the task presented. One of those present began to read messages of congratulation, editorial comments, and letters that had been received. More than an hour was thus consumed with not a comment, during the reading, from those who heard; there were no self-congratulations, no mutual laudations for the work that had been done. At the end of the reading there was an interval of silence, which was broken by one of the sponsors of the publication who had at the outset agreed that no material aid should be lacking to make THE MODERN HOSPITAL all it should be.

"Well, gentlemen," he said, "I was under the impression that we had started a journal; it seems, instead, that we have on our hands a crusade. Our bearings were in some respects faulty, and new stakes have been set for us better than we had set them for ourselves. We are headed higher; we must follow the new path pointed out for us."

For several hours that night policies were discussed concerning the work to be done, which presented serious problems for solution, and required that careful plans be made. Before the meeting adjourned the business policy of the journal was mentioned—with hesitation at first, then more decisively—and *it was determined that, as a definite policy of THE MODERN HOSPITAL, not one line of advertising should appear in its pages that did not present a product for use in hospitals that the most critical member of its editorial staff could hesitate to approve and recommend.* Since that time many thousands of dollars' worth of advertising have been declined in accordance with that policy.

Some of the products now being advertised, about which there was possible doubt, have been

subjected to the most searching scientific inquiry by experts whose business it is to make such investigations, and both money and time have been given to this work. *THE MODERN HOSPITAL* has assumed the herculean task of evaluating the large number of articles offered for use in hospitals. Connections have been made with recognized authorities, with institutions for scientific research, and with individual leaders in every branch of modern thought that might in any way contribute to a careful, thorough analysis and a correct evaluation of every product and every service offered for the use of hospitals and for the benefit of the public health. If the detailed story of the investigations that have been made regarding some of the advertising in this number were told, it would be a liberal education for hospital people.

The old order of newspaper and journal publication—that news shall be edited in the counting room—has been reversed, and in *THE MODERN HOSPITAL* offices the advertising passes over the editorial desk before it is accepted. While the purpose behind this policy is wholly in the interest of hospital efficiency, and in line with a firm conviction on the part of the editors that *THE MODERN HOSPITAL* has a serious mission, the observer need only glance at the advertising pages to assure himself that the policy pays.

In consonance with the policy adopted, the advertisements submitted for these pages are subjected to the following requirements: first, they must appertain to hospital needs; second, they must represent products or devices that have been passed by critical scientific tests; third, the subject-matter or copy must present a truthful and understandable statement of facts, or be revised to meet that requirement.

On this basis we intend that all advertising shall represent honest products and mark the scientific progress in mechanical and other devices in such a manner as shall appeal directly to and assist the hospital administrator in making intelligent selections for the use of his institution. We expect by the application of these principles to create a mutual confidence and understanding that will be a threefold benefit to our readers, our advertisers, and ourselves.

It is the ambition of those concerned in its welfare to make the advertising pages of *THE MODERN HOSPITAL* in all truth a buyer's guide, and a working reference for purchasing purposes.

Mischievous Nursing Legislation.

We have gone far enough now to know that the California eight-hour law, as applied to pupil nurses, is a miserable fiasco from every logical

standpoint. It does no good to anybody, least of all to the pupil nurses in whose interest it was supposed to have been passed, and it is doing an immense amount of harm in restricting the freedom of the hospitals of the state in their attempts to serve sick people efficiently.

But it was avowedly the purpose of union labor, at whose behest the law was enacted, to prosecute the principle of this law in every state in the Union, if it could be "put over" in the premier state of fads and foolishness. In keeping with this purpose, there is a proposal now before the people of the state of Washington to enact a similar law, but to go one more step and include graduate nurses. Think of it! Graduate nurses in private practice restricted to an eight-hour day! Comment is superfluous.

Then comes along Kansas. The Board of Health of that state last week made a ruling that no hospital should operate a training school unless it has more than 15 beds, with an average of 10 of them occupied.

There is no doubt that there are many hospitals in Kansas and elsewhere that operate training schools that should not be permitted to do so, but why a restriction on a per-bed basis? There are just as many hospitals very much larger than 15 beds that are criminally inefficient in their hospital service to patients, and consequently in their training of nurses. The small hospital may not offer a very wide range of service to pupil nurses, and the number of cases in each class may be woefully small; but if there are ideals, and conscience, and an educated, well-trained woman on the job as head of the small school, who knows what nurse training should be, her pupil who may see only half a dozen obstetrical cases in the whole three years, and not half as many of the communicable diseases, will be turned out far better equipped to practice her profession than the graduate who has been trained like a circus seal, or whose training has consisted solely of a menial servitude of three years in a hospital without a conscience.

Then why make the number of beds in a hospital the basis of efficiency? Are there no other terms that spell efficiency?

How would it do to let the training of the nurses, as exemplified in examination before the state board of nursing registration, be the test of the efficiency of the school? The state board of nursing registration might be clothed with the authority to close a school that did not give its pupils an acceptable training. If this course is taken, the board itself should be looked into carefully, and its personnel adjusted properly—two practicing physicians, one hospital superintendent, and two nurses, for instance.

Some of us have feared, for a good while, that

the leaders in the nursing profession were too insistent about legislation of radical sorts, and that there was entirely too much talk and too much thought about "shifts" and "hours of duty" and "schedules of pay," and other union labor fetishes, and too little thought about the dedication of the nurse to a vocation and profession that called for all her time and all her body and all her soul.

Now the whole nursing profession, backed up by the whole medical profession, and by the thoughtful, sane members of society at large, will have to band themselves together and exercise all their might to stem the tide that is sweeping them into the vortex to the union labor idealism that has for its object the leveling downward of the efficient to the measure of the inefficient.

Miss Graves' Papers.

In the August number announcement was made of a series of papers by Miss Lulu Graves on the general subject of "Food and Food Principles." In the meantime Miss Graves has accepted the invitation of Lakeside Hospital, Cleveland, to take entire charge of the commissary of that institution.

Miss Graves has already had a broad experience in dietetics, first as dietitian for Michael Reese Hospital, and since as dietitian for the Cook County Hospital, Chicago. Supported by the ambitions and ideals of Lakeside, with the impetus and stimulant of the Medical School of Western Reserve University, her field is now to broaden out immeasurably, and there is no doubt that we shall hear much and learn much from Lakeside in the near future concerning this vexing and complex problem of food.

A tentative schedule of Miss Graves' papers, eight in number, is as follows:

October—Second paper, "The Food." Food principles discussed; sources of food; function in the body. Composition of some common food materials and how they are utilized. Milk and its products—1, pasteurized; 2, sterilized; 3, peptonized; 4, eiweissmilch; 5, infant foods; 6, koumiss; 7, buttermilk; 8, butter and butter substitutes; 9, cheese. Tea; coffee; cocoa.

November—Third paper, "Composition of Food Materials and How They are Utilized in the Body," continued. Vegetables—green; starchy. Fruits—fresh, dried, canned. Cereals, legumes, eggs, poultry, fish, meat.

December—Fourth paper, "The People to be Fed." I, those with unimpaired digestion—surgical cases, maternity cases. II, those with very much impaired digestion with high temperature—gastrointestinal. III, those whose treatment is largely dietetic—diabetes, nephritis, gout, rheumatism, high calorie typhoid.

January—Fifth paper, "Nutritive Value of Food—Calorie Value of Food." Needs of body governed by age, sex, size, climate, occupation. Requirements of persons (employees) doing hard physical labor. Requirements of persons doing light work. Requirements of persons leading sedentary lives. Methods of determining calories for diets—1, of special cases; 2, of institution as a whole.

February—Sixth paper, "Theories of Diet—High Protein, Low Protein, Vegetable, Raw Food. Value of mixed diet. The inorganic food materials—1, water; 2, mineral salts. Changes which take place in food—1, during cooking; 2, during digestion.

March—Seventh paper, "Preparing Menus." Serving food. Relation of the commissary department to other departments in the institution. The kitchen. The serving rooms.

April—Eighth paper, "Differences in Food Problems Between Various Kinds of Hospitals." Municipal general hospitals; semi-private general hospitals, part pay and part free; special hospitals for insane, tuberculosis, defectives, convalescents; reformatories and prisons; homes for indigent and aged; orphan asylums.

A Vision of the Ideal Hospital.

Take one of our modern hospitals, with its up-to-date equipment for the study and care of the sick, with its expert medical staff, its corps of trained administrators, its training school for nurses, its social workers, its out-patient department, its equipment and staff for research work, and, in addition, humane conditions for its employees. In this hospital will be found an attractive living room for the men and maids. There will be a place where the young women employees may entertain their men friends.

There will be a welfare worker whose sole duty will be to teach and to study the comfort of the domestics. In this hospital the domestics will not have to seek the streets, the parks, and the public dance halls for their recreation. In this hospital every part of it can be opened to the public, and sanitary and attractive conditions will be found for all. There will also be a teacher of occupations for the convalescents and handicapped, so that those who enter the hospital may leave it with some new resources.

This hospital will be not only a teaching center within its walls, but it will carry on extension courses. Its medical staff will give health lessons in home nursing and sanitation; the dietitians will teach home cooking for the sick and for the well to those who need such instruction; its social workers will help unsnarl social problems for its

out-patients, and verily its influence shall be felt in the community as a blessing to all.

It will be an expensive hospital to run, because, although its administrators will not permit waste, they will see that, while administering charity, it does not exploit its own employees; and this ideal hospital shall be a health hospital such as benevolent persons shall rejoice in supporting.

ANONYMOUS.

An Obligation and an Opportunity.

War conditions in Europe have shut off the source of hospital supplies for our neighbors in Central and South America, and, to a considerable extent, Canada is similarly affected because she is young yet in manufacturing, and in the past has bought most of her hospital wares from the mother country and from Germany and France.

This means that shortly our country must supply the needed equipment for hospitals throughout all America. This is an obligation quite as much as an advantageous chance to extend our commerce. In fact, it is much more than merely an opportunity to promote our industrial interests, because, if the situation is properly met, there will result a broader influence of our hospital methods and practices on our neighbors and an interchange of ideas that should create a better understanding of those hospital and health problems in which we are mutually interested.

There are many fine hospitals south of our borders, and to the people of those countries as well as to ourselves this is an era of public health service, and the scientifically conducted hospital which is to care for and cure the sick of all peoples in the near future is found in Argentine, Brazil, Chile, Venezuela, Cuba, Colombia, and only in a lesser degree in all Latin America.

With the hospitals of Canada we are more familiar, and all of us recognize the advanced work being done by them, and we realize how much benefit has been derived from our contact with their administrative and medical staffs.

In the August issue of THE MODERN HOSPITAL was an article on the need of a Pan-American quarantine, and the subject is again mentioned in this number. This is only one of many health and hospital problems common to all the countries of this continent.

In the opinion of THE MODERN HOSPITAL the time is opportune for the American Hospital Association and for our other health organizations to broaden their influence by establishing closer relations with our Central and South American confreres just as we have done with Canada. Also, we believe it would be in the line of constructive patriotism, as well as good commercial develop-

ment, for our manufacturers of hospital supplies and medical and scientific apparatus to make ready to serve the markets which will soon be calling for their aid. That these people are interested in our hospital methods is evidenced by the very considerable number of subscriptions sent to this journal during the past year from all of the countries in both North and South America.

Our September Cover Illustration.

Our cover for this month bears an illustration of the recently constructed contagious pavilion of the Evanston General Hospital at Evanston, Ill. An interesting description of this modernly arranged building, with carefully prepared diagrams of the floor plans, is printed in this issue, and will indicate to what extent efforts have been made to scientifically treat the various forms of contagious diseases.

Dr. Harry H. Hatcher has opened a hospital in Dayton, Ohio, for surgical and gynecological cases exclusively. The institution is located in a three-story brick building at 28 West Monument avenue, remodeled to adapt it to the purpose for which it is to be used and it is said that the equipment will be first-class.

Nurses doing private work in Spokane, Wash., are opposing the proposed state-wide eight-hour law. Mrs. M. V. Pitts, visiting nurse for the Metropolitan Life Insurance Company at Spokane, is quoted on the subject as follows: "An eight-hour rule may be all right with nurses in hospitals and institutions where they can maintain shifts, and nurses in this line of employment are believed to favor the measure. But with nurses who work in the homes it is different. They take a case and stay with it, and then will follow long intermissions when they do nothing. To compel nurses who work in the homes to work in eight-hour shifts means that people will not employ nurses, and that both the sick and the nurses will suffer in consequence."

Miss Emma L. Stowe has been appointed superintendent of nurses of the training school connected with the Elizabeth (N. J.) General Hospital and Dispensary. Miss Stowe is a graduate of the Boston City Hospital, was for a time employed as the head of the Rhode Island Hospital Training School and of the training school of the Maine General Hospital, and for nearly twelve years served as superintendent of nurses of the Connecticut Training School for Nurses. The nurses' home of the Elizabeth General Hospital is to be enlarged and many improvements made. The hospital, under the management of Miss Eugenia D. Ayers, the able superintendent, is rapidly outgrowing its present capacity, and it is said that a new building will soon be a necessity.

The problem of inadequate water pressure, said to have been long a menace at the Missouri State Hospital No. 2 at St. Joseph, has been solved by the construction of a reservoir, which will hold 500,000 gallons. This institution has also recently remodeled and enlarged its icehouse. The wood and mineral wool lining of the structure has been replaced with cement and cork. The building now houses a butcher shop, the dairying facilities of the hospital, all the vegetable store rooms, the ice manufacturing plant, and three large rooms are provided for the storing of fresh and canned fruits, etc. The ice plant has a capacity of 12,600 pounds daily. Two hundred and fifty to three hundred gallons of milk a day are received from the fine herd of Holsteins belonging to the hospital. The state owns 230 acres of land at St. Joseph, and the hospital is leasing 800 more, which are devoted to agricultural purposes.

MEETING OF THE AMERICAN HOSPITAL ASSOCIATION AT ST. PAUL, AUGUST 25-28.

The President's Address—Some of the Papers Presented—Other Papers Printed Elsewhere In This Issue—Additional Papers and Convention Report To Be Published in The October Issue.

The St. Paul Meeting.

While this number of THE MODERN HOSPITAL is still on the press the sixteenth annual conference of the American Hospital Association will be called to order by President Howell, and what now promises to be the greatest of all the conventions will be in session.

During the past year Dr. Howell and Dr. Boyce have performed wonders in arousing enthusiasm. They have done a prodigious amount of work, and THE MODERN HOSPITAL, out in the field in its own small way trying to help, has crossed and recrossed their well-worn trail up and down the highways and the byways of the hospital world.

Some very real progress has been made in this past year. The ideals of the association have been pushed far out, and have been impressed on hospital workers everywhere, and a strong uplifting influence has been felt all over the North American continent.

Some of the papers to be read before the St. Paul meeting, that THE MODERN HOSPITAL is to have the privilege of publishing, are evidence that the efforts of the officers of the association are to be ably seconded by participants in the program. The meeting is to be a great success.

President's Address.

BY DR. THOS. HOWELL, SUPERINTENDENT NEW YORK
HOSPITAL, NEW YORK CITY.

Members of the American Hospital Association, Ladies and Gentlemen: At the Boston meeting it was voted to admit into the association as associate members hospital physicians, surgeons, pathologists, and superintendents of training schools for nurses. It affords me much pleasure to announce that a goodly number of these have availed themselves of the opportunity to become members. Their presence at these meetings will operate undoubtedly to bring about a spirit of helpful cooperation and to enlarge the sphere of the association's activities. This means increased efficiency for American hospitals. We now have, I believe, the largest and most influential hospital organization in the world. On behalf of the old members, I wish to extend a most cordial welcome to the new ones. We hope that they will take an active part in the discussions, for we feel that there is much to be learned from them.

I have heard the criticism made that our programs deal too largely with theoretical subjects, to the neglect of the practical, every-day ones. Originally, only superintendents were eligible to membership in the association, and the papers and discussions were strictly along the lines in which they were particularly interested; but, as the association grew and other hospital workers were invited to become members, it became necessary to arrange programs that would appeal to the various classes represented in the membership. The great American Hospital Association of today bears but slight resemblance to the little association of hospital superintendents of fifteen years ago, and it owes greater obligations to the public. It is no longer an association solely for superintendents, and I do not believe that many of us want it to be. We are proud of its development along broader lines.

As I view it, this association should deal with the broad, exceptional or involved problems, leaving the simpler and commoner subjects to smaller organizations, such as the Round Table of Boston, and the Hospital Conference of the city of New York. Undoubtedly there is a field for these small, informal associations, and I strongly urge superintendents throughout the country to thus get together in groups for mutual improvement through the interchange of ideas and experiences.

PLAN OF HOSPITAL ORGANIZATION.

At almost every meeting of the association there have come up for discussion, in one form or another, questions as to the best plan of organization for general hospitals. A number of excellent papers on this subject have been read and have elicited much discussion, but so far we, as a body, have taken no decisive action. This is a question which has many sides and angles, and one which deserves most careful study. New hospitals are being founded constantly and old ones are being reorganized, and their trustees and officers are asking, "What is the best plan of organization for us to adopt?" Unquestionably this association, representing trustees, physicians, superintendents, and directresses of nurses, is the one best qualified to give an authoritative answer to this question. It would appear that this is a matter that might well be referred to a committee for investigation and report.

GOVERNING COUNCIL PROPOSED.

The Committee on Development in 1908 recommended that the association should consider the practicability of conducting its business through a Council or House of Delegates. The desirability of making this change in our method of government becomes more apparent and urgent each successive year. The organization has grown rapidly of late, and has now reached a point in its growth where it has become unwieldy in respect to the conduct of its business meetings. Just as the town meeting is a satisfactory method for governing a village, but is too cumbersome to be employed when the village becomes a city, so with organizations like this—the time comes when primitive methods of government must give way to others more practicable and efficient, even if less democratic. The rank and file of the members attend the meetings to hear the papers and discussions, to extend their acquaintanceship, to visit institutions, and are not particularly interested in the purely business affairs. Would they not derive more benefit and satisfaction if they could refer the routine business matters to a representative council of their own choosing? This would render it possible to present better programs, as the business meetings now consume time that could be more profitably utilized. It was necessary this year to decline several excellent papers for the reason that no place could be found for them on the program. It would appear that such a council would insure the stability of the association by giving it a continuity of administration, which it now lacks because comparatively few persons attend the conventions regularly year after year and participate in the business routine. A study of the lists of those registering at the

various conferences shows that the attendance is influenced largely by the geographical location of the convention city. I would suggest that only those who are qualified by years of experience in the affairs of the association should be chosen as councilors. They should be elected, not appointed, and should serve for several years, with partial retirement each year.

INDIVIDUAL VERSUS CORPORATE MEMBERSHIP.

It has been suggested that the membership of the association should be composed of hospitals rather than of individuals representing hospitals. The inquiry which



DR. THOMAS HOWELL, PRESIDENT,
Superintendent New York Hospital, New York City.

suggests itself is whether any considerable number of the institutions not represented at present would unite with the association if the suggested change were made. Many hospitals now have from two to eight members in the association. Would the number of new members be sufficient to offset the loss of the old ones? It would appear that a hospital which is so small, or which lives its life so far apart from other institutions, that its superintendent at least is not interested in the association, is not likely to become interested in its corporate capacity. As to the expense of membership in attending meetings, is it at all probable that hospitals which are not represented at present would be likely to make such appropriations?

One objection to corporate membership is that it destroys any real test of fitness for membership. If a hospital can become a member, it follows that any person connected with it, no matter how unfitted to occupy the place, can become a component part of the association, with the right to office, to vote on important questions, and even to use the machinery of the organization for selfish purposes.

It may be stated, as a general rule, that we appreciate association membership which we gain by individual merit, and have little regard for honors and opportunities which come to us through outside influences. Taking everything into consideration, it would appear that it would be better to devise other means for increasing the membership of this organization. One way would be to make it so prac-

tical and useful that all institutional people would be compelled to recognize the desirability of becoming members.

FAVORS BUREAUS OF STANDARDS AND SUPPLIES.

Most of you have heard about the Hospital Bureau of Standards and Supplies of New York. This bureau is an association of hospitals and charitable institutions, maintained by annual dues. It was established under an agreement to which, at the present time, thirty-four institutions are parties. Having been in existence for over five years, it has passed the experimental stage and may be regarded as a success. The business of this association is transacted by an executive committee composed of hospital superintendents and a purchasing agent. The executive committee, which meets monthly, gives the purchasing agent such suggestions and advice as may be of assistance to him in preparing suitable specifications, and in negotiating advantageous agreements with dealers.

My purpose in mentioning the bureau is to call your attention to the fact that it is a success, and to advise that hospitals whose geographical location renders impracticable their affiliation with the present association should carefully investigate the question of cooperative purchasing with reference to the establishing of similar organizations in various sections of the country remote from New York. Such organizations will, I believe, prove not only profitable, but educative as well.



MR. H. E. WEBSTER, FIRST VICE-PRESIDENT,
Superintendent Royal Victoria Hospital, Montreal, Quebec.

PENSION SYSTEM FOR EMPLOYEES.

"How can we obtain more competent and permanent employees?" is a question that hospital officials frequently ask. To solve this problem is difficult. That hospitals do not pay their employees as generously as business houses pay theirs is well known, and this undoubtedly operates to the disadvantage of hospitals in securing suitable applicants for positions. Small wages, long hours, and little opportunity for advancement render hospital service unattractive to most persons, and the average employee does not hesitate to sever his connection with the institution at the first opportunity. This frequent shifting of

employees not only seriously handicaps the work of the hospital, but makes it doubly difficult for the permanent force, who, in addition to their own duties, must be continually training new people for the various positions. It is indeed fortunate that there are in every hospital a few fairly permanent employees, and it is their faithfulness that makes possible the operation of institutions. Without them there would be chaos. The trouble is that there are not enough of them.

In an endeavor to render hospital employment more attractive, and thereby secure a more permanent and effi-

ceiving an average salary of \$100 per month for five years preceding retirement would be entitled to 30 percent of \$100, or \$30 a month.

CONTINUOUS STAFF SERVICE.

The function of a hospital is generally admitted to be fourfold—the expert care of patients, the teaching of medicine to physicians and medical students, the advancement of medical knowledge, and the training of nurses. Most American hospitals were founded for the purpose of caring for the sick and injured, and not until recent years has there been any general appreciation of their educational responsibilities. Hospital authorities, in the past, assumed that if they provided liberally for the care of the sick, they had discharged their obligations to the community. Conditions have changed gradually, and many trustees now recognize that the educational function of hospitals is a most important one; in fact, only secondary to that of caring for the sick.

One factor which has contributed largely to the lowering of the scientific and educational standards of hospitals is that the attending physicians have been, through no fault of theirs, dilettantes in hospital work. They have given comparatively little time to it. They have been on duty in the hospital for only two or three months annually, and the remainder of their time they have devoted to their outside practice. Naturally, then, on returning to their hospital duties after an absence of nine or ten months they have found themselves unfamiliar with the development of modern hospital methods. It has been impossible with



DR. H. A. BOYCE, SECRETARY,
Superintendent Kingston Hospital, Kingston, Ont.

cient body of workers, the governors of the Society of the New York Hospital decided several months ago to establish a pension system in their institutions—the New York Hospital, the Bloomingdale Hospital for Mental Diseases, the House of Relief, and the Campbell Convalescent Cottages. The entire expense is borne by the society, the employees not being required to contribute to the pension fund. While several of the states provide old age pensions for their hospital employees, private hospitals have been reluctant to take up the matter, fearing that questions of legality might be raised, and that the expense entailed would be prohibitive. At the New York Hospital no legal obstacles were found, and the expense incurred is not excessive.

The plan adopted provides pensions for employees who have reached the age of 65 years and who have been in the service of the hospital for fifteen years, for those who have reached 60 years of age and have been in the service twenty years, for those who have reached 55 years of age and have been in the service for twenty-five years, and for those who have completed thirty years of service, regardless of age. It is provided that the minimum amount to be paid as a pension shall be \$15 a month and the maximum \$125 a month. The pension allowance for any employee to whom a pension is allowed on account of age or length of service is as follows: for each year of service an allowance of 1 percent of the average monthly pay received for the five years preceding retirement. To illustrate, an employee in the service for thirty years and re-



MR. ASA BACON, TREASURER,
Superintendent Presbyterian Hospital, Chicago, Ill.

interrupted services for them to thoroughly qualify themselves as hospital physicians or as teachers of clinical medicine. It is the recognition of this deplorable condition which has influenced a number of hospital boards to provide continuous services for their attending staffs. In many other hospitals this question of continuous service is being discussed earnestly; and it seems safe to predict that eventually a majority of hospitals, especially those in the larger cities, will adopt this plan and thereby increase their scientific and educational productiveness.

It is now quite generally conceded that no physician

who is not in constant touch with hospital work can hope to reach the highest rank in his profession; and the time will soon come, if indeed it is not already here, when it will be a generally accepted belief that no hospital which adheres to the old plan of rotating service can hope to attain a commanding position in the hospital field. In changing over from rotating to continuous service, some temporary sacrifice on the part of members of the attending staff will be inevitable. But by exercising a little ingenuity in arranging the services and in making the assignments, this can be reduced to a minimum, and in the end the patients, the hospital, and the staff will be benefited by the change. The patients, not having frequent changes of physicians, will receive better care, there will be more scientific medical work done, and the educational output will be of a much higher order. Hospitals will be held in higher esteem and will be better supported. This may appear to be a mercenary view to take, but it is nevertheless the correct one, as is evidenced by the splendid support given to those hospitals holding high rank as scientific and educational institutions.

The following is an incomplete list of American and Canadian hospitals which have continuous service: Columbia Hospital, Pittsburgh, Pa.; University Hospital, German Hospital, Medico-Chirurgical Hospital, Hahnemann Hospital, Women's College Hospital, Samaritan Hospital, Jefferson Hospital, Philadelphia, Pa.; St. Luke's Hospital, New York Hospital, Roosevelt Hospital, Bellevue Hospital, Presbyterian Hospital, New York, N. Y.; Massachusetts General Hospital, Massachusetts Homeopathic Hospital, Peter Bent Brigham Hospital, Carney Hospital, Children's Hospital, Boston, Mass.; St. Vincent's Hospital, Worcester, Mass.; St. Mary's Hospital, Rochester, Minn.; City Hospital, Minneapolis, Minn.; City and County Hospital, St. Paul, Minn.; Lakeside Hospital, Cleveland, Ohio; Royal Victoria Hospital, Montreal General Hospital, Montreal, Canada; Toronto General Hospital, St. Michael's Hospital, Western Hospital, Toronto, Canada; St. Margaret's Hospital, Bethany Hospital, Kansas City, Kan.; St. Joseph's Hospital, Swedish Hospital, German Hospital, Mercy Hospital, St. Luke's Hospital, Kansas City General Hospital, Kansas City, Mo.; Iowa Methodist Hospital, Mercy Hospital, Des Moines, Iowa; Clarkson Hospital, Omaha General Hospital, Presbyterian Hospital, Wise Memorial Hospital, Methodist Hospital, Omaha, Neb.; Johns Hopkins Hospital, Baltimore, Md.; Charity Hospital, Touro Infirmary, New Orleans, La.; Harper Hospital, Detroit, Mich.; Washington University Hospital, St. Luke's Hospital, Jewish Hospital, St. John's Hospital, St. Louis Mullanphy Hospital, St. Mary's Hospital, Missouri Baptist Sanitarium, Alexian Brothers' Hospital, St. Louis, Mo.; Kingston General Hospital, Kingston, Canada.

MORE AUTOPSIES NEEDED.

There is another important matter, also coupled with the question of education, to which I desire to direct your attention. I refer to the question of autopsies. The physicians of the United States are today seriously handicapped in their clinical work by lack of opportunity to study pathological anatomy. They have nothing like the opportunities in this respect that the physicians of Canada, Germany, and England enjoy. Statistics compiled by the Public Health, Hospital, and Budget Committee of the New York Academy of Medicine show that of patients dying in seventeen leading American hospitals, post-mortem examinations were made on less than 20 percent, while three Canadian hospitals reported 67 percent; five English hospitals 78 percent, and eight German hospitals 89 percent as coming to autopsy.

The expert care of the sick depends primarily on the last refinements of the science and art of diagnosis. Without this, therapeutics is simply meddling. It is absolutely impossible for even the best trained internist to maintain a high plane of diagnostic medicine without the final test of autopsy on those cases that die. It is natural and proved by experience that, without this spur, physicians will settle back into slovenly technic and loose processes of thought. What is the meaning, if not this, of the statistics collected by a Boston physician who noted that a malady not difficult to recognize escaped detection eight times out of ten? And this is but one of his many embarrassing disclosures. No hospital can be sure that it is even efficient as a hospital without the constant stimulus to its physicians of numerous post-mortem examinations. In no less degree is the autopsy theater a necessity to the student. Grounded in theory by precept, trained at the bedside by experience in the wards, he carries away with him no single complete or permanent mental picture unless he has seen and handled organs from a like case in the post-mortem room. Without this first-hand knowledge his art and his science are pure theory; he does not really comprehend the disease.

It must not be forgotten that of medical students the majority will go into practice with a certain stock in trade in the way of knowledge, to which but small addition will be made in the routine of general practice. If their knowledge is to mean anything, they must be well grounded in the principles of medicine founded on morbid anatomy. To those students who elect to train themselves as teachers, specialists, or investigators, at present in American hospitals we offer comparatively little opportunity. As things stand today, we are not able in American hospitals to train an expert clinician who would rank with the head of a German hospital. This is true mainly because he would find here no adequacy of autopsy material to give him the needed experience as a pathologist. Of the present-day Americans who have established reputations in internal medicine, almost every one has been forced to go to Europe for pathology. What is true of the clinicians is even more true of the pathologists—they all must of necessity go to large European cities to find the material for their training.

The members of this association can, if they will, be of great assistance in improving these present conditions. It is our duty to educate hospital trustees, legislators, undertakers, and the community as to the desirability of holding autopsies. Only when we are thus thoroughly interested and working together for the common end may we expect to see the removal of this serious obstacle to the proper development of our medical education.

REASONS FOR INCREASED EXPENDITURES.

There are those who assert that this association has failed in its avowed mission—"the promotion of economy and efficiency in hospital management." To support their assertions, these critics point to the increasing expenditures of hospitals during recent years. They ignore the fact that the cost of every kind of enterprise—commercial, philanthropic, and religious—has largely increased, and they apparently do not appreciate how much more is done now by hospitals for their patients than was done ten or fifteen years ago. Fifteen years ago the use of the x-ray as a means of diagnosis was in its infancy; the social service department had not been instituted; nurses were too few; there were not enough interns to attend properly to the clinical work; there were no trained dietitians; very little laboratory work was attempted; and in many instances the business management was so inferior that

hospitals were looked on by patients with much distrust and by business men with mild derision.

As to the increased cost of commodities with which hospitals today have to contend, I find, on comparing average prices of 1913 with those of 1906, the following percentage increases: meats, 48 percent; poultry, 21 percent; butter, 38 percent; milk, 48 percent; cream, 45 percent; absorbent gauze, 22 percent; and coffee, 42 percent. In the face of these facts, I ask, can anyone successfully maintain that we are not doing much more for our patients and for the community than we were a decade ago, or that we are not paying greatly increased prices?

To complete our case, let us now compare the per-capita costs of ten years ago with those of today. In 1903 the average daily per-capita cost of fourteen of the representative hospitals of the country was \$2.14 as compared with \$2.47 in 1913. This is an increase of less than 16 percent, and it is very much less than the average percentage of increase in the cost of everything which is comprised within the range of hospital business. I think contributors to hospitals have reason to be pleased with the results which have been obtained with their money in recent years.

The American Hospital Association is not soliciting flattering commendation, nor is it resenting frank and deserved criticism, but it feels justified in claiming no small share in the achievement of these satisfactory results by disseminating throughout the length and breadth of the land information and advice which have helped so materially in improving institutional conditions, and with such an insignificant increase in per-capita costs.

California and the Eight-Hour Law.¹

BY ANNE A. WILLIAMSON, R. N., SUPERINTENDENT OF NURSES,
CALIFORNIA HOSPITAL, LOS ANGELES, CAL.

On the statute books of California has been placed a law which presents the most serious problem that has ever confronted the American training schools for nurses, stubbornly fought from the time of its conception down to the final scenes. When its advocates gained the victory by the signing by Governor Hiram Johnson, it gained in notoriety and strength—as a snowball gains as it is rolled about—until now it is pointed to by the would-be reformers as a monument to the chivalry and the generosity of the people of California. The history of this famous law we may know, the administration of the law we may know, but what it will do for the pupil nurse, and what it will mean to the graduate nurse who receives her training under such a handicap as this law provides, only time will tell.

California seems to believe that this so-called eight-hour day, which is really seven hours six days in the week and six hours one day in the week, has come to stay. It is the first state to put its hospitals and its professions under the sway of the labor organization, but, if I read the times aright, it will not be the last. Organized labor is reaching its tentacles in every direction and drawing under its mighty wings any too weak to withstand its unreasoning but terrible ambition. Let other states beware and be prepared to do battle for the uplifting of the nurse, bidding their lawmakers to keep their hands off professional education.

In the year 1911 a bill was passed in the California Legislature which was known as the "Eight-Hour Law for Women." This bill, which in the course of time became a law, limited the working hours of women employed in any mercantile, mechanical, or manufacturing establishment,

laundry, hotel, or restaurant, or telegraph or telephone establishment or office, to eight hours a day for six days in the week. At first the feeling among these different establishments was one of consternation, as it meant so much readjusting of hours and in many instances the substitution of men in the places where women had been employed. But the American is resourceful, and in most instances the matter was worked out to the satisfaction of the employer and the patron, although not always to the satisfaction of the employee.

To the latter class, which the eager Legislature had striven to benefit, it in many instances worked a hardship, doing away with the weekly half-holiday which many firms were finding it possible to allow during the hot weather, and forbidding all overtime work of which many a woman has been glad to avail herself in order to bridge over a hard place, illness at home, some longed-for luxury, or perhaps the wherewith for a real vacation trip, putting these features entirely out of the question when the regular weekly salary was all that could be considered.

But the minor difficulties were ignored; the bill had passed and must be enforced. Department stores rearranged their hours, restaurants employed more men and fewer women, laundries abolished their early closing days, the high cost of living was made still higher, and not much disturbance was caused by the new regime.

Then the advocates of the new measure grew bolder and dared bigger things. Early in the year 1912 the first indications of the intentions of the labor party were seen in the form of communications to the different nursing organizations in regard to the proposed amendment to the law already on the statute books. The main change that was sought was to include nurses in the eight-hour law, and the representatives of the state association were asked to give their opinion in the matter. On January 23, 1912, this came before the regular meeting of the council and the following resolution was passed: "Resolved, that the California State Nurses' Association do not indorse a bill including nurses under the eight-hour law for women." About that time the several county associations were approached with the same question, and, while answers were sent, it must be confessed that at the time the proposition seemed so absurd and so unworthy of any consideration by a body of professional women that scant attention was given it.

But steadily on came the tide, and while the year was yet young the intentions of the advocates of the eight-hour law were all too apparent, but not until early in the spring, and after the proposed bill had been given a great deal of newspaper notoriety, did the hospital authorities wake up to the fact that the bill was fast winning its way into favor, and was sure of passage through both houses and of the governor's signature. It was then too late to do much; meetings were held and resolutions passed and protests sent to Sacramento, now the seat of war, but the hospitals were not organized, and the nurses' associations in the state could not be made to take sufficient interest in the matter, and they were not well versed in legislative work, which calls for experience.

The bill, as originally drawn, included all nurses, but it was argued that the graduate nurse had the same status as a physician, and that to put her under the law would be both a hardship and an injustice. While the bill was still in committee a public hearing was announced, and several hospitals as well as nursing organizations sent representatives to speak before the committee. Great was the excitement all over the state the night set for the hearing and all who could be present were there, the large assembly chamber of California's capitol being crowded

¹Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

with interested listeners. Many nurses were able to speak on that occasion, but the discussion was chiefly between a superintendent from one of the northern hospitals and a newspaper woman working in the interest of the bill. Many good points were brought out by both sides, but popular opinion was in favor of the bill, and the newspapers all over the state came out the following morning with large headlines and glowing accounts of the great humane measure before the Legislature; so no one was surprised when a few days later the bill was reported favorably out of committee, with recommendation that it pass.

Time went on, and the bill gained in favor and was set for a special order for a certain Tuesday. In response to a telegram sent to Los Angeles from those opposed to the bill, the writer went to Sacramento to help during those last days. I found things much as I expected they would be from the newspaper accounts, except that the feeling was stronger in favor of the bill than we had thought possible. Strange tales had been told of hardships and injustice in some training schools—conditions that may have existed and may not, but the telling of which had its effect on ears always ready to listen to the sensational. One argument brought forward was that one training school had been known to require a service of thirty hours in one day, but when pressed for an explanation the speaker beat a hasty retreat. It was also stated that many schools were already under the eight-hour law, which proved how little the legislators knew about the subject in hand. No hospital in the United States—or, for that matter, in the civilized world—has ever been confronted with the eight-hour law for six days in the week.

The eight-hour system in effect in several of the hospitals provides for a continual service seven days in the week, and is managed by three shifts of nurses, who relieve each other at stated intervals. The eight-hour law allows for a service of eight hours a day for six days in the week, or six and six-sevenths hours a day for seven days in the week, and it may be readily seen that three shifts of nurses will not cover a service of twenty-four hours in the day for seven days in the week, but relieving nurses must be provided to supply the lapses that will occur as a result of such an awkward arrangement of time.

The eight-hour system allows for a service of fifty-six hours in the week, which is understood to mean eight hours in one day, but it is sufficiently elastic to permit of longer service in one day in case of emergency, to be counterbalanced by shorter hours the following day. It provides for seven days in each week, a provision that is imperative for those who have to deal with the sick and injured, for a hospital may not close its doors night or day, Sundays, or holidays.

Perhaps the description of the passage of the bill by the Senate can best be given by quoting from a San Francisco newspaper.

NURSES WIN FIRST BATTLE FOR EIGHT HOURS—SENATE PASSES BILL AND SCENE OF CONFLICT NOW SHIFTS TO LOWER HOUSE.

Sacramento, May 1.—The fight for an eight-hour day for pupil nurses, which started on the floor of the Senate yesterday morning at 10 o'clock, came to the victorious conclusion at midnight, sandwiched in between layers of the nonsale of duck bill and impeded in its progress by every tactic known to the reactionary politician; the bill finally passed with a vote of thirty-two ayes and no noes. The senators who led the determined opposition came under the wire at the last minute after they had exhausted every possible means of excluding pupil nurses from the bill.

Senator Henry Lyon, who fathered and championed

Senate bill 466, reviewed the situation in the hospitals in the state, pointing out the long hours of labor required of pupil nurses, the money earned by them for their institutions, and the pittance barely large enough to cover the cost of uniforms and books paid to them. He urged the speedy passage of the bill, but was blocked at the outset by an amendment which was offered exempting hospitals from the operation of the law. From that time the fight centered on the amendment.

This spirited introduction was followed by one of the northern senators, who read several letters from prominent people, which were declared to prove conclusively that if there is any class of young women engaged in any vocation who need the protection of the eight-hour law, it is the pupil nurse. He based his assertion on the requirements of health, education, public safety, and humanitarianism, and wound up by asking if California, which leads the vanguard in humanitarian legislation, should deny to the pupil nurses the privileges they accord to other women.

Senator Caminetti entered the fight early in behalf of the nurses, and he stayed by it to the close, making vigorous objections to all the amendments offered. He begged that eight-hour legislation be backed by every man who has the cause of humanity at heart. "We took a great step forward two years ago when we passed the eight-hour law," he said, "and I don't know a man who fought against it at that time who would change it now. We cannot go backward. We must go forward. Our parties have pledged themselves to the uplifting of humanity—it was the slogan of our last campaign, and there can be no better example of putting it into practice than by passing this bill by an almost unanimous vote."

In the evening, when the argument against the amendment had become so involved that, as one senator put it, they were afraid they would put the ducks in the hospital and have an open season on nurses, Senator Caminetti again championed the bill, introducing statistics from physicians showing the detriment of overwork, and drew a clear analogy in its application to the measure at issue. Notwithstanding the avalanche of telegrams which descended on the senators' desks and the Niagara flow of eloquence turned loose, all the amendments were voted down and the bill passed. The senate chambers and galleries were crowded all day with women interested in the passage of the bill and many of the wives of the assemblymen, some of whom have been nurses, stayed until the last gun was fired.

About two weeks after the bill passed the Senate it reached the floor of the Assembly, and after much argument and an all-day session, continuing until after 2 a. m., it finally passed and was sent to the governor. Even then the training school authorities did not give up. Letters were written to the governor, and representatives were sent to Sacramento to be present at the hearing that he gave on all important bills before signing them. It was curious to note that not one nurse was present at that hearing who went in the interest of the bill. The only persons supporting the bill were a representative labor leader and a newspaper woman who had worked for the bill under the direction of the labor party. The opposing side was well represented by nurses prominent in training school work in California.

The bill was signed June 14th, 1913. The famous eight-hour bill was now a law, and as such it would be enforced. There was no precedent to guide us, a change from the eight-hour system to the eight-hour law being equally as difficult as a change from the old system to the eight-hour law, and it would take generalship to accomplish it. It was a peculiarity of the existing conditions that no one was ready to come forward with a working plan. The press called loudly for ideas on the subject, but the people whose opinion was of any value were silent. Meetings were held in different parts of the state and the superintendents of the training schools invited, and, while these meetings were well attended, the superintendents would not talk. Even at the meeting of the State Nurses' Association, where the subject was forced to the front,

the superintendents, as if by common consent, still remained silent. No one would give an opinion on an untried measure, and each seemed more than willing that her neighbor and fellow-sufferer should work out her own salvation; and as August 10, the day set for the law to go into effect, drew nearer and nearer, one school was quite ignorant as to the manner in which the other schools would comply with the law. August 10 fell on Sunday, and Saturday night the ever-ready reporter was on hand to secure a little news for the Sunday paper in regard to the hospital service under the new law. Most of the heads of the training schools were either off duty or inaccessible, so what meager information was obtained was gathered from the pupils, who were fully as curious and quite as ignorant on the subject as the reporter himself.

The arrangement of the schedule for the training school which I represent occupied many weeks—in fact, as I sat in the Legislature while the routine business was being taken up, I always had a paper and pencil and filled in the tedious hours making out a working plan.

There were two methods from which to choose. One was eight hours work a day, with one day off duty during the week, and this was the intention of the advocates of the bill when it was first introduced, it being a combination of the old law of one day in seven rest and the eight-hour law passed in 1911. The other method was the division of the forty-eight hours among the seven days in the week, so that each nurse is on duty some hours each day. Most of the large training schools adopted the latter plan as the lesser of the two evils. This gives seven hours of duty for six days in the week and six hours of duty for one day in the week, an awkward number with which to reckon, as twenty-four is not divisible by seven in any way, and three shifts of nurses will not handle any one department unless the patients could be left entirely alone for the three odd hours. However, law is law, and with even this intricate problem before them the superintendents went to work with what courage they could muster, determined to produce results which must be as satisfactory as possible to the patient, the doctor, the hospital, and the pupil herself. The class hours must be taken into consideration, the meal hours must be respected, and the change that comes in the middle of the night must be at an hour that will work the least hardship to anyone.

With the first method the full number of nurses required to care for the patients must be supplied plus a relieving nurse for every six nurses, as each nurse must be off duty one entire day during the week and likewise the relieving nurse. With the second method a most elaborate schedule of each nurse's time must be worked out, with the allowance for her meals and her classes, and with as much consideration for the patients as such a handicap would permit.

Having had no experience with the first method, I am not in a position to give an opinion, but those training schools that have tried it seem to be fairly well satisfied with results. It has its weak points in the fact that it gives too much time to the pupil, when she is responsible for nothing, taking her entirely away from her work for one whole day, causing her to lose interest in her patients, for a great deal can happen in a day, and neither sickness, accident, nor the throes of maternity stop on Saturday night. As this method is entirely new in the nursing world, perhaps the superintendents of nurses would be interested to know more definitely just how it works out. Take, for example, one corridor containing perhaps seven or eight general patients. Two nurses will come on duty

at 7 a. m., one working from 7 a. m. to 12:30 p. m., and from 5 to 7 p. m., the other from 7 a. m. to 2:30 p. m. A third nurse will come on duty at 9 a. m., working until 4:30 p. m., and should a fourth be required, she will report at 11 a. m., working until 7 p. m. The first night nurse reports at 4:30 p. m., working until 12 midnight, when the second reports at 12 midnight, staying until 7 a. m. These hours, as they are arranged, include one-half hour for each meal, the nurse not being allowed to return to duty until it has elapsed. On one day in the week one hour must be subtracted from each nurse's time, so that the hours of duty will not total more than forty-eight hours for the week. It will be seen that five nurses are required to care for eight patients instead of three as heretofore, and the patient must have at least four different nurses looking after him besides the head nurse and her senior.

In the operating room a continuous service is arranged up to midnight, with much the same schedule of hours as on the corridors, and, if there are emergency operations between the hours of 12 midnight and 7 a. m., the nurses who work from 4:30 p. m. until midnight are called for those operations, it being another day and date, and the time is subtracted from the regular hours of the succeeding service. There are no half days given and no vacations.

From the hospital's point of view, there is little to be said. There is a larger pay roll, as more nurses are required to supplement the work of the pupils. There is a larger staff to house, and running expenses increase, which is offset in the private institutions by an increase in the rates, and in the endowed institutions by a decrease in the charitable work that may be done, for the care of a patient necessarily costs much more now than heretofore. The increased mental burden falls on the hospital management. The decreased training is the unfortunate lot of the pupil nurse, while the increased expense falls on the taxpayer in the public institution and the self-respecting patient himself in the private hospital.

Some hospitals have abolished the training schools, which perhaps is not such a calamity in several instances, but others have been obliged to give up their affiliations, which is a detriment to many training schools, for, with only enough pupils to care for the hospital patients, they cannot be spared to go to other institutions, and this difficulty will not be overcome for several years until the training schools are large enough to meet these increased demands.

To the patient the constant change of nurses is more or less annoying, and many, to avoid this, resort to the only alternative of having a special nurse, whether they can afford it or not. This, of course, takes the needed experience away from the pupil nurse.

Quoting again from a San Francisco daily paper will show a condition where the operation of the law has a direct result on the hospital and its patients, contracting to a great extent the work that may be done and robbing the pupil of her practical instruction in contagious work, which is so difficult to obtain. The writer says:

As a direct result of the eight-hour law for women in its application to hospital nurses, the Children's Hospital has been forced to close the doors of its \$51,000 contagious pavilion, which was recently completed, and which is the finest and best equipped building of its character in the West.

The announcement of the closing of this department was made by Mrs. John F. Merrill, president of the institution, at a meeting of the board of managers of the hospital, and the reason given was that the hospital could not afford to employ the necessary graduate nurses for its maintenance under the new law, and did not have suffi-

cient student nurses in its training school to carry on the work of attending contagious cases.

That the general public, and especially the poorer classes, who are dependent upon the charity of such institutions as the Children's Hospital for the care of their sick, will be the chief sufferers from this action, was the statement of Miss M. S. Wilson, superintendent of nurses of the hospital, when seen yesterday morning, in an interview authorized by the president.

Miss Wilson, who also deprecates the state of affairs whereby the student nurses will lose an important branch of their training, said:

"The forced closing of the contagious pavilion is illustrative of the ill effects of this new law and of the harm which it can accomplish. The hospital has attempted to operate this department, but from the beginning it was apparent that it would prove impracticable under the conditions imposed. Each case, according to the law, required the services of four nurses, and these nurses, owing to the nature of the cases being treated, were absolutely precluded from any other duties, and were constantly in quarantine with the patient. The hospital has but forty-eight student nurses at the present time, and is even hampered in the other departments, which require seventy or more students in the care of patients. The hospital cannot financially afford to place graduate nurses on these cases, and, even if it could, there are not sufficient graduates available to supply the needs of the institution. It has been the custom of the hospitals to intrust these cases only to nurses who are in the last eighteen months of their training, as the nurses in the first half of the course are considered to be only in the preparatory stages of their work, and not suited for the care of contagious diseases. This branch of nursing should by all means be done by student nurses, and, as this is now impossible, they are losing one of the most important parts of their training. Nurses cannot learn without practical demonstration, and to be competent to practice their profession after they have graduated they must have instruction in the care of contagious cases as well as any other branch of the work.

"A distressing phase of the situation at the Children's Hospital since it became necessary to close down the contagious pavilion, arose last week, when the institution was forced to turn away a case of diphtheria. This is the first time in the history of the hospital that a suffering child has been refused admittance, and the board of managers has always prided itself on the fact that any sick child, irrespective of color, creed, or nationality, was welcome to the care of the institution, no matter how poor or rich the parents might be. A contagious pavilion has for years been maintained by the hospital, and the enforced closing of this branch of the institution will work untold hardship on the poor of this and surrounding cities who, for obvious reasons, are unable to care for their children when contagion arises."

But to the pupil nurses, the ones for whom the law was made, comes the greatest hardship. Could the eight-hour system, fifty-six hours per week, have been given them by law, with an allowance of a certain number of weeks of special work, with private patients, the conditions would have been arranged to the satisfaction of every right-minded superintendent in the state. Young women enter the training school with the understanding that it is hard work, and they know it is a life of self-sacrifice, but anything worth while comes hard, and no educational institution can be handled on a satisfactory basis that is limited in the hours that it may allow for its experience. Seven hours a day does not give any nurse enough insight into a case to become interested, and the grand principles Florence Nightingale tried to instill into the minds of her followers have resolved themselves into the labor principles of putting in time. Young women entering the training schools have few resources. They have little money for amusements away from the hospital. To be sure, there is the class work, but that cannot be used to fill up all the waking hours, and, sad but true, the moving picture shows and other like cheap places of amusement furnish a place where time may be killed. Another fact

is, there is so much time to do everything that nothing is done on time. Meals are not attended, nurses not of a very energetic turn of mind will spend the greater part of the time off duty, in bed, sleeping away the precious hours that can never return. There is a great temptation to leave many things undone. The nurse lacking in principle will not finish her work if she has the habit of slighting, the nurse who follows her may do it if she sees fit or pass it on, knowing that the head nurse may not call her back, as that would be working overtime.

During her training, under this new law, it is a misdemeanor, punishable in some institutions by dismissal from the school, for the nurse to stay five minutes longer on duty than her prescribed time. Every hospital is responsible for each nurse in training, and consequently the most rigid surveillance is necessary, because any deviation from the law will be reported and dealt with by the labor inspectors and the courts. How can a woman, who for the period of her training has been under this labor law, on her graduation, blossom forth as a self-sacrificing professional nurse? Her principles and her ideas cannot be the same if trained under this forty-eight hours per week law as they would be if she had been trained under different conditions. The long hours demanded of the graduate nurse will not appeal to the woman whose going and coming has been prescribed by law. She will be restless and uneasy, with little interest and enthusiasm in her work, and most likely will break down with her first hard case, as she has not been trained to endure.

As the law applies to all women in hospitals except the graduate nurse, the housekeeper, dietitian, and the woman intern must come under it. The first two mentioned can arrange their work by adding to the duties of the already overburdened superintendent, and little confusion results, but the woman intern finds the matter particularly hard. She has come to the hospital at a great financial sacrifice to gain all the experience she can in one year; she receives no salary for her work, but, if unhampered, obtains experience which money cannot buy. Her hours have never been counted before, she was privileged to do as she pleased, and, as all hospitals know, her responsibilities are particularly heavy at night, when sleepy doctors do not care to have their slumbers disturbed or be obliged to leave their comfortable beds at night if the emergency is one which the intern can handle until morning. Sad and ludicrous would be the situation if the intern, on being called, should announce the fact that she had worked her eight hours that day and dared not get up.

Perhaps no phase of the nursing situation has brought forward more bitter criticism during the campaign for the eight-hour law than the subject of special nursing, and not only in this state, but all over the country, it is a subject widely discussed and much abused. Four-fifths of our nurses graduating from training schools enter the field of private nursing; the other fifth accept institutional positions. The hospital which gives its pupils no experience in executive work is the object of much censure by the nursing organizations, as they are not doing their duty by their nurses in fitting them to take up the different lines of the work open to the graduate nurse. How much more necessary is the training in special nursing to the young graduate!

Special nursing can be learned only by experience, and that experience should be given to the nurse before her graduation. She may attend lectures in ethics by the dozen, but, unless she has actual experience, she knows nothing of the intricacies of private nursing until she has been shut up in a room with one patient whom she must

make comfortable and happy. How much better to give to the pupil that experience while she has the help and the guidance of her head nurse and her superintendent, than to make her first six months out of the hospital her probationary period of private nursing.

In California the very character of the hospitals makes special nursing for the pupil imperative if she is to be at all well trained in her profession. We have no endowed hospitals, and few charity or ward patients save in our county hospitals. All patients who undergo serious operations demand the services of a special nurse, thus leaving for the pupil only convalescent patients to care for. A nurse during her entire training, under the present law limiting her time on duty to seven hours a day or six hours a day, may never have the opportunity to care for a serious operative case, or a very sick medical case. The patient must have a special nurse, and the graduate nurse is called just as the patient was getting instructive and interesting.

A young woman gives up three of the best years of her life to learning her profession, and it is unjust to her to deprive her of the work to which she is entitled. Take the matter of maternity work, and, unless a pupil may have at least one case all her own, she is poorly equipped to go out to the private home as the doctor's sole assistant and "make good" on her first case.

In all hospitals the obstetrical work is so directed that each nurse has a certain number of weeks in each branch of the work. She will care for the mothers for a certain length of time and for the babies for a certain length of time. She will take her turn in the delivery room and on night duty, but not until she has a special patient will she be able to form any idea of how to proceed from start to finish with a maternity patient. It is not fair to the public nor to the nurse to deprive her of this valuable part of her training because the law of our state says so long may she work and no longer.

In executive work, which most of the training schools have added to the third year work, the pupil finds herself seriously hampered. It is exceedingly difficult to turn responsibility over to anyone who must measure her work by hours and minutes. She should be free and unhampered in every way as regards to time, as results must be produced—not a certain amount of time put in.

It has been the custom to place the third-year nurses in each department as assistant to the head nurse, where they may be taught executive work, where they will have the opportunity of working with the head nurse and sharing some of her responsibility, and relieving her in her absence, but with a limited service of seven hours a day this work must be greatly curtailed or done away with altogether.

Those who oppose this law are the true friends of the pupil nurse. All hospitals should adopt the eight-hour system, with six months of the three-year course to be devoted as may be desired to special nursing, so that our graduates will go out into the world well prepared for the great responsibilities that will devolve on them. To do this we do not want laws instigated and enforced by labor agitators, but such regulations should be left to our state nurses' association and to the inspectors of our training schools, who are graduate nurses and appointed by the State Board of Health.

Nursing is a profession which belongs exclusively to women, and, as was said at that wonderful meeting of the American Nurses' Association in Chicago in 1912, nursing is peculiarly woman's sphere. It calls for the highest in character and education, and it cannot succeed with-

out perseverance, determination, and self-sacrifice. But how can we instill those principles into the minds of our pupils when the first lesson we must teach is self-centered—the eight-hour law. How can we at the command of the law turn against those first principles that our patients' comfort is first—our own, second?

Real nursing, self-sacrificing service, cannot be timed by the clock. It never has been, and it never will be. Soldiers going into battle are not called to retreat because time is up, and neither should those soldiers who are fighting disease and death be told to lay down their arms and steal away because a certain hour has arrived.

Surely our Legislature, in passing a law which is such a handicap to the education of the nurse, was not looking to the reputation of the state. How do they think it possible for women trained in California to compare favorably with nurses from other states where no such menace to education exists? Surely it is a far cry from "The Lady with the Lamp" down to the present time, where the law reduces pupil nurses to the level of the poorest paid worker in the field of labor, doing away with all zeal and interest in the work, robbing it of what little romance it had, and which discourages faithfulness and unselfish devotion to one's duty, and which puts no premium on fidelity.

The Hospital Family—Cooperation in Domestic Management.¹

BY NINA DALE, R. N., SUPERINTENDENT THE GERMAN HOSPITAL, CHICAGO.

Mr. Chairman and Fellow-Members of the American Hospital Association, Ladies and Gentlemen: I am honored by a request to appear before you to discuss in a general way the "Hospital Family" from the standpoint of cooperation in domestic management. Before we proceed to the subject in hand, let us agree on the personnel of the hospital family. It has been suggested that membership in the hospital family shall be restricted to such persons as actually reside within the hospital or its premises. This seems to me to be incomplete inasmuch as it omits at least two of the most important essential factors in the successful management of a hospital—namely, the board of directors and the medical staff, who, of course, are nonresident, but who in my opinion form an integral part of what we have chosen to designate under the title of "The Hospital Family."

In most well-regulated families, you will agree, the father is the recognized head and guide in all matters affecting the general welfare, and this by virtue of his assuming the burden of the support of the family. And so do we look to our boards of directors for guidance in our general policy, and especially for relief in our financial problems, which, we all regret, are still the most embarrassing that confront us. We might also mention here that, as father's activities should be limited to affairs external, so would the best interests of the hospital demand that the board exclude themselves from our domestic affairs.

To whom shall we assign the maternal duties in our hospital household? It seems to me that these fall naturally to the superintendent and his or her immediate assistants. It is the superintendent who is responsible for the orderly and efficient conduct of the hospital. The daily domestic routine of provisioning with wholesome and palatable food, overseeing its proper preparation, and its attractive serving to the nurses as well as to the

¹Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

patients, and guided throughout by consistent and well-directed economy; the almost daily adjustments of complaints from patients; the rectifying of misunderstandings and differences between heads of various departments, or between doctors and nurses—in these respects, as well as in many others that we might mention, the routine of the average superintendent may be correctly compared with that of the average mother. But these are merely unimportant details as against the superintendent's relationship to the patients in the hospital. It is they who constitute the children in our hospital family; it is for their comfort and benefit that we are all striving; they are the most important phase of our "hospital family," as children are in our social family. In fact, they are the only reason for our existence, and whatever efforts our boards of directors, our superintendents, our doctors, and nurses devote to the welfare of the hospital should be directed primarily from the view point of the patients' welfare.

We will agree that the ideal family is the one wherein harmony, mutual interest, sympathy, and loyalty prevail. The success of our hospital family is in no less degree dependent on such relationships for its permanent and useful existence. But how to bring about these ideal conditions, or approach them as nearly as possible within human limitations, is the problem that confronts us all.

The first practical step in the direction toward the attainment of these ideal conditions, it seems to me, lies in vesting the maximum of authority and responsibility in the superintendent of the hospital. It should be her or his absolute prerogative to select or reject his or her assistants, as well as any other subordinates within the institution, without any other influences than those of merit and compatibility. In other words, the greatest factor in creating and maintaining harmony or cooperation in the hospital organization lies in the choice of assistants, and therein, above all, we should not be hampered or embarrassed. Once you have chosen your assistants for their ability and willingness to carry out your policies faithfully, you have found the keynote to successful management—that is, of course, provided your policies and methods are correct.

As before mentioned, we must not omit from our hospital family our very important friends, the medical staff. Second only to our solicitude for our patients, our regard for facilitating the work of our staff doctors should occupy a generous share of our time and efforts. We all recall many physicians whom we consider among our most loyal associates, who mollify and minimize their patients' petty complaints, who evoke courtesy and kindness by example, who are the staunch friends of the nurses, but never overstep the bounds of propriety; who accept and abide by the rules of the hospital as if they had themselves instituted them, who teach the interns, admonish them when necessary, and encourage them at all times, who cheerfully volunteer their best and untiring service in behalf of our needy patients without thought of remuneration; to them we owe a deep and lasting appreciation. Were all the doctors to lend the assistance and cooperation that is easily within their power, and which, fortunately, so many of them do, how much smoother sailing we would enjoy.

It is unnecessary to recite to you the unnerving experience which the meddlesome and irritable, insatiable practitioner can inflict on the entire personnel of the hospital through his own lack of perception and courtesy. These remarks apply equally forcibly to the nonstaff physicians who bring their patients to our institutions, and who,

though not directly included in our hospital family, render us a valuable service—not alone financially, but in the practical education of the nurse and intern.

If we could but have our intern as he should be, how courteous, gentle, and sympathetic the patients would find him, and yet reserved, dignified, and attentive. His position is not always to be envied in his relation to the attending physician. His opinions may be solicited and subjected to severe criticism, and, regardless of his embarrassing position, he must maintain his self-possession and proper respect for his superior, never forgetting his obligation to carry out faithfully all orders, whether in accordance with his own views or not, and never indicating to the patient by word or action the existence of any difference of opinion between himself and the attending physician. In these and many other respects can the intern contribute to the general efficiency of the hospital. His attitude toward the head nurses and pupil nurses, if limited to strictly ethical and professional association, will relieve us of many a vexing situation.

On the other hand, the importance of the intern's position in the hospital organization, while in great measure dependent on his individual efforts, should nevertheless command for him the respect and consideration of the attending doctor as well as of the nurse.

The characteristics of the superintendent of the hospital are, as a rule, accurately reflected in the qualifications of the head nurses, for it is in the appointment of head nurses that the ability and shrewdness of the superintendent are demonstrated. Her authority and executive ability should have full sway, at least in this important phase of her position; here she may exercise her insight into human nature, and distinguish and recognize merit. These members of the family, fortunately, are absolutely within the choice of the superintendent. The board and staff are already self-constituted members of the hospital family; in fact, it is they who determine on the superintendent. The responsibility, then, for the efficiency of the head nurses rests entirely on the superintendent, and, therefore, if the head nurses are not agreeable, tactful, sympathetic, gentle but firm, in caring for their patients, the fault lies largely with the superintendent. The head nurse's position does not mean merely sitting at her desk, making rounds with the doctor, and writing a few orders. It requires her to be constantly alert, to take a personal interest in her patients and evidence it by frequent visits; industry, economy, dignity, and personal appearance are all qualities which she should not only possess, but instill in her pupil nurses; and, above all, she should show by the kind of service she renders that *THIS* is her chosen profession and not merely her employment. She should command the confidence of her patients in the adjustment of difficulties that may arise, without the necessity of their being brought to the superintendent, and she should invariably report her action to the superintendent, and, should circumstances require the attention of the superintendent, then will she show her discretion by presenting the facts immediately, rather than permit them to reach the superintendent by way of the patient or the doctor. In fact, she should be able to detect dissatisfaction and adjust conditions before complaints reach the superintendent through the patient or the doctor. In brief, she should be what has been aptly termed an "educated saint," with the additional virtues of diplomacy, tactfulness, and resourcefulness, and withal possess a keen sense of humor.

The character and reputation, even of the successful hospital, is in the final analysis determined by the charac-

ter and efficiency of the pupil nurses; and, while the pupil nurse is theoretically expected only to carry out orders, she still has a measure of personal responsibility, which, if wisely exercised, will contribute greatly to the cooperative whole. We all know the qualifications of the ideal nurse and we know equally well that the available material comes far short of meeting these requirements. Had their earlier home life been such as to cultivate habits of economy, respectfulness, kindness, and consideration, a thoughtfulness of others, a forgetting of self, we could spend a great deal more time in teaching them the actual theory and practice of nursing rather than in trying to eradicate the shortcomings of twenty years' formation. Show me the pupil nurse who has had the benefit of an excellent home training, and I will in turn show you a nurse who early receives the confidence of her superintendent and is intrusted with responsibilities, and who at the expiration of her term of training is sought after to enter the hospital organization.

Nor does our hospital family end here, there are the men and the maids-of-all-work. In most cases the early training and home breeding of the subordinate members of the hospital household have been neglected. Not all of us can be ladies and gentlemen, if culture and education and refinement are necessary qualities and virtues of gentlefolk, but the humblest of our coworkers can be honest, loyal, unselfish, and courteous, and whether they are so depends in very large measure on ourselves. Almost nowhere else are we so sure of the truth of the biblical injunction to "give, that ye may receive." Let us not forget that the subordinates in the hospital are our coworkers, not our menials and slaves; they are very human—perhaps more so than ourselves; they respond generously to kindness and courtesy and consideration. Let us remember that these humble folks are not the recipients of earth's choicest blessings. Many of them have tried the heights and have fallen back so hard that all ambition for another try has left them; they need counsel, support, guidance, a cheery word on occasion, and sometimes reproof. But it is very certain that hospital subordinates give to their institution of the best that is in them in quite as large measure as do those whose capacity and responsibilities are greater—even the superintendent of the hospital.

And so our hospital family, from the highest to the lowest, is made up of a number of human beings, not unlike a garden of flowers—if nourished by a rich soil of courtesy and kindness and consideration, the individual flowers will grow and develop and bloom, and send forth to pervade the air all about with sweetness and beauty and happiness.

Scientific, Economic, and Humane Conduct of Municipal General Hospitals in the Southern States.¹

BY J. W. FOWLER, A. M., M. D., PH. D., SUPERINTENDENT
LOUISVILLE CITY HOSPITAL.

Standing in the presence of the greatest assembly of hospital experts in the world, I indeed would be lacking in appreciation if I did not express my thanks for the high honor conferred on me by your distinguished president, Dr. Howell, for inviting me to address the American Hospital Association on this occasion. I feel somewhat abashed in addressing this brilliant gathering of hospital superintendents, trustees, physicians, surgeons, pathologists, architects, and superintendents of nurses, who are gathered together from every section of the North Ameri-

can continent, on the subject of the hospitals of the southern states. My diffidence increases when I see about me so many representatives from this section of our country who are better qualified than myself to speak for it.

PECULIAR SOUTHERN PROBLEMS.

The building, scientific organization, and economic management of a general municipal hospital in the southern states is quite a different proposition from that of a similar institution in the northern, western, or eastern states. The racial problem in the South enters largely into the construction of a municipal hospital, making it necessary to double the number of wards, dining rooms, roof gardens, etc. Wherever there is a white ward—be it female, male, baby, psychopathic, or isolation—there must be provided a corresponding negro ward. This fact demands a much larger building and imposes a greater expenditure in the equipment and maintenance.

SEGREGATING THE NEGRO.

It also requires a nicety and precision, involving, as it does, the old, old question, so dominant in the South, of caste and color. How strange it is that a few miles make such a difference in the customs of a people. Just south of Mason and Dixon's line, upon the southern bank of the Ohio river, is the city of Louisville, and just north of the line, not far away, on the same tawny river, is Cincinnati; yet in the municipal hospital at Louisville there must be absolute segregation of black patients, while in Cincinnati they lie side by side with white patients in the same wards. Segregating the negro patients leads to many difficulties. The candidates for admission into the nurses' training school, in some instances, when informed that they have to take care of negro patients, decline to enter; and sometimes, after they enter, they refuse to do duty on a negro ward. Most of the nurses, however, declare that the negroes are more grateful than the whites, and this compensates them for waiting on them.

HUMANE TREATMENT OF THE NEGRO.

The notion prevails among most people in the North that the negro does not get fair treatment in our schools and hospitals. This is erroneous; the negro receives fair treatment. The South recalls with gratitude the fidelity with which the negro during the war between the states guarded the defenseless women and children of the South whilst their fathers and husbands were fighting against his freedom.

THE CONFEDERATE SOLDIER'S GRATITUDE.

When the southern soldier returned to his desolate home at the end of the war, he took the negro's black and humble hand in loving grasp in recognition of his faithful care of the helpless ones he had left in his charge. Nowhere else in the world could the negro receive better treatment than here in the Southland, where we know him best. He shares our school funds, and when he is able to work we give him employment; and when he is sick we take care of him in the same identical way that we care for the white man. The only difference is that we segregate him. We have kept faith with the negro and no section shows a more prosperous labor population than the negroes of the South. There is no such thing as anarchy or strikes among them.

A SOUTHERN PLANTATION.

I was reared on a southern plantation in Kentucky, belonging to my grandmother, who was a slaveholder, owning and working about thirty negro men and women. The negro families lived in log cabins, in a semi-circle about

¹Read at the sixteenth annual conference of the American Hospital Association, St. Paul, August 25-28, 1914.

the "big house," and were happy and contented. All during the war they took care of "Ole Missus," and many of them remained with her after the emancipation proclamation as voluntary farm hands up to the time of her death. Who can say that the negro is not capable of all the best sentiments that animate the human being? Their affection is easily won and the effect is lasting. My earliest recollection of a hospital was the one in the "big house," where the darkies were humanely cared for when sick by the family doctor.

NANCY HANKS AND ABRAHAM LINCOLN.

It may be interesting to my audience to know that my grandmother was the girlhood friend of Nancy Hanks, the mother of the great emancipator, and was reared in the same neighborhood in Kentucky where Nancy Hanks lived. My grandmother always spoke highly of Nancy's character.

TYPES OF SOUTHERN HOSPITALS.

The hospitals of the South may be divided into four classes. We have types of each class in our respective cities. We have the municipal general hospital, such as the Charity Hospital of New Orleans or the St. Louis City Hospital. These hospitals are called general hospitals because they usually admit all kinds of diseases. They are the hospitals that are most frequently used by the medical colleges for clinical teaching of students. Then we have the municipal special hospital for contagious diseases, such as diphtheria, tuberculosis, measles, scarlet fever, meningitis, and small-pox. We also have special hospitals for the treatment of skin diseases, aural, children, and neurological. In addition to these there are general hospitals built and endowed by philanthropists. These latter hospitals select certain diseases which they elect to treat, and decline to accept those they do not care to treat, such as venereal, contagious, and tuberculosis. A luminous type of these hospitals is Johns Hopkins. My experience as superintendent of a municipal general hospital teaches me that the chief burden of caring for the helpless, sick, wounded, and afflicted of the masses, in the main, falls on the municipal general hospitals of the country. They take all kinds of diseases and handle them humanely and scientifically.

HOW SOUTHERN HOSPITALS ARE OPERATED.

As to the *modus operandi* of the southern hospitals, they are similar to other sections of the country as regards being in an experimental and evolutionary state, and are trying every plan in vogue in other parts of the world. In some of our cities that have what is called the "open hospital," where there is no exclusive staff and the family doctor follows the patient into the hospital and treats him, or, if an operation is necessary, selects the surgeon and assists him in the operation, but, after the operation, again assumes charge of the patient. This system has many advocates, and works successfully in many of the smaller cities. It has the advantage of doing away with all jealousies among the local physicians, and all doctors, so far as the hospital is concerned, are on an equal footing.

Then we have hospitals that divide the work equally between the staff of a medical school and the physicians not connected with the school. This system is worked in two ways. One way is for the medical school to take care of one-half of the patients the year round, and the nonschool staff members the other half. The other way is for the school men to have the winter work and the nonschool the summer.

SOUTHERN ARCHITECTURE.

In architectural style the southern hospitals are about as diversified as those of the North. Some of our cities have the old-fashioned block hospital, with the wards arranged in different blocks, exposed to the sunlight and air on two sides to insure cross-ventilation. A few cities have the corridor hospital, with the wards arranged along one side or both sides of a corridor, and ventilated only on one side.

The more modern hospitals are built on the pavilion hospital plan, in which the wards are a parallelogram, entirely detached on at least three sides, with windows on both sides of the long axis, opposite each other, and attached to the main building at one end only. Of this type is the Louisville City Hospital; the combination corridor pavilion hospital, such as the Johns Hopkins; and the composite hospital, which comprises all irregular plans, and which cannot be grouped in any of the other classes.

NURSES' HOMES OF THE SOUTH.

The building and maintaining of a nurses' home, where a homelike and social atmosphere is created, has largely increased the efficiency of the pupil nursing force. It enables the hospitals which have tried the experiment to obtain a higher class and better educated force than heretofore. Some of our southern hospitals have built nurses' homes that have every convenience that a cultured young lady could desire—gymnasiums, plunge and shower baths, kitchenettes, laundries, music rooms, sitting rooms, reception rooms and roof gardens, exclusively for the nurses.

DOMESTIC EMPLOYEES' HOMES.

A number of the hospitals of the South have developed and built homes for their working staff and provided recreation and reception rooms for them. This has helped to secure a better and more permanent grade of employees.

DUTIES OF A SOUTHERN HOSPITAL.

The chief duty of our hospitals is to care for the sick and wounded; to nurse those who cannot recover is only secondary. In the old days the principal service rendered by a hospital was nursing the incurables. Many of our best hospitals today, which are thoroughly equipped for modern practice, were erected years ago only for the care of destitute and confirmed invalids. Now we nurse, examine, and safeguard patients, and educate them to lead healthy lives and to avoid the occurrence of future sickness. We teach the patient in the hospital cleanliness of body and clothing, and how to select and prepare proper foods.

THE DOLLAR MARK NOT COUNTED.

Hospitals in the South are not measured by dollars and cents. The advance of medicine is very rapid, and the superintendents of hospitals must keep their boards informed as to this advance, so that changes may be made and appliances secured to meet these advances. The superintendents are judged by the good the hospitals have accomplished from a surgical and medical standpoint, and not by expenditures.

POTENTIALITIES.

The most potential things in the management of hospitals are the reports and records. They represent a vast number of details, and require a world of time and study to prepare them, but there is nothing so important in achieving results and maintaining administrative discipline. A hospital that institutes the proper records cannot fail to be so well managed that the probe of the inquisitors or the complaints of the critics can be offset by the facts. To formulate and establish a thorough set of rules requires a perfect knowledge of all the details of

the hospital and an intimate acquaintance with the patients of every department and their needs. Possessing this knowledge, the superintendent is in instantaneous touch with every department, and the management is bound to be a success.

A WORD IN REGARD TO OUR RECORDS.

The records of the municipal general hospital of Louisville, of which I have the honor to be superintendent, are in part original, of my own making, but in greater part they are a selection from the leading hospitals that I inspected in my journey over the country for that purpose. Therefore, I hope I may be permitted to claim that our records are as good as any in America.

SOME HOSPITAL STATISTICS.

There are 1,000,000 people sick all the time in the southern states. Statistics show that the average expectation of life fifty years ago was thirty-three years. Since that time the growth of hospitals has enabled the sick to take advantage of modern medical and surgical aid, as applied in an up-to-date hospital, and the average has been raised to forty-five years. I firmly believe that this age may be increased to sixty years if those who become sick will seek the aid of modern hospitals in their helpfulness along the lines of getting well and remaining well.

CONTRAST OF OLD AND MODERN HOSPITALS.

The hospitals of the South are very different today from those at the close of the war, when we had nothing left but army hospitals. The southern home can no longer compete with the hospital in the care of the sick. Such an admission would have been regarded as heresy by our grandfathers, but today is conceded generally. Change in the attitude of the people to the hospital implies the actual change that has taken place in the hospitals themselves. These institutions are no longer cheerless, uninviting places, where the sick and superannuated are sent to die; in fact, nearly all of them get well. Overcrowding, lack of attention, unscientific treatment has been superseded by a new, scientific system which develops its own technic of efficiency and humanitarianism.

HIGH-CLASS SERVICE AND DIETS.

Patients in a southern hospital today get the service of a highly cultured staff of physicians, both in surgery and medicine, and a carefully trained body of nurses who thoroughly understand how to care for the sick and wounded, deftly and noiselessly. The diets are in skilled hands, and the food is nutritious and of the best quality that the market affords. The linens are the cleanest that up-to-date laundries can supply, and an abundance of fresh air and plenty of sunshine are provided by sun parlors and roof gardens. The cares and personal responsibilities of business and the anxieties of housekeeping are forgotten, and hope, confidence, and peace pervade the southern hospital atmosphere.

SOMETHING ABOUT OURSELVES.

Dr. Howell requested me to say something about my own hospital, which is the "last word" in hospital architecture in the South. The new City Hospital of Louisville was decided on and built by its citizens. It is maintained by general taxation. The people delegate the management to the mayor and the board of safety, and they to the superintendent. All authority to conduct the hospital is given to the superintendent, except the appointing power, which is in the hands of the board of safety, and the actual prescribing, which is given to the medical department of the University of Louisville.

MAYOR AND BOARD OF SAFETY.

It is the fashion to say that a partisan board cannot conduct a hospital successfully. This is a mistake. In my five years' experience under a Democratic mayor and board, in no instance did the mayor or any member of the board thrust politics into the hospital. They have never asked me to admit a patient nor give an applicant a position on account of his politics. Nor have they, at any time interfered with my management, except to advise and help. My only instruction from our distinguished mayor—who, by the way, is a physician—was "to take care of the sick and wounded properly and to be superintendent in fact as well as in name."

THE BLUE GRASS METROPOLIS.

The metropolis of Old Kentucky is truly a great city. It has, counting her sister cities of the Falls, New Albany, and Jeffersonville, and the towns within a short radius, 400,000 people. The particular pride of the city is our new million-dollar hospital for the benefit of the unfortunate sick who, through temporary financial stress, are unable to care for themselves. It is also the high calling of the hospital to give the medical students of the University of Louisville their necessary clinical experience.

At this point I feel that I must say a word about what is undoubtedly a no less important feature in the character of a city hospital than its efficiency in the matters already described. I refer to

THE RELIGIOUS AND MORAL TONE OF A CITY HOSPITAL.

As a public hospital we have to compare with the many excellent institutions erected in our midst by the munificence of private philanthropy. I need not attempt to prove, what all of you must know, that the general public, and especially its very poor, for whom a city hospital is chiefly built, view it—owing, of course, largely to ignorance, and yet not without some excuse—with suspicion and dislike, other hospitals, such as are managed by sisterhoods, churches, and private enterprises, being sought in preference. A clerical friend of mine, the rector of an Episcopal church in our city, who has frequently visited and much admires our hospital, told me that he had recently lost a whole family from the membership of his church because he had advised them to send a sick relative to the city hospital. It was thought to be an insult, (1) because it was the city hospital, (2) because of the believed reports of general carelessness and want of sympathy on the part of the doctors and nurses, (3) of the believed reports of poor food and accommodations, (4) of the believed reports of the lax moral tone of a city hospital, and (5) because of the lack of religious oversight.

These are some of the ideas entertained by the general public, and especially the poor, with regard to the character of a city hospital, ideas which, while they may have had some ground in the past, have absolutely none in the present; ideas, however, which I need not say must be eradicated if great institutions such as ours, supported by the taxpayers, are to take the position in the minds of the general public which is essential for their success.

On the points I have enumerated much, of course, might be said. To put the matter briefly, what are we doing in Louisville to accomplish the end to which I have just referred?

HOMELIKE INFLUENCES.

In the first place, the institutional character of the hospital is kept in the background as much as possible, and every patient is made to feel as much at home as circumstances will permit. No woman is ever delivered before a class, only two or three students being ad-

mitted at such times, nor is any woman ever examined except in the presence of one or more female nurses. No operation is performed by an intern alone, the rules requiring a staff member to be present at all operations. Then, a high character of pupil nurses is secured by accepting no candidate unless she brings a letter from her pastor, certifying that he knows her personally and will vouch for her character as a young lady of education and good morals.

RELIGIOUS AND WELFARE WORKERS.

In the matter of religious care, we let the patients know that they can have the attendance of their respective pastors whenever they wish them, and charity and welfare workers are always welcome.

LADY BOARD OF VISITORS.

I believe our municipal hospital enjoys the distinction of being the only one in America which has a lady board of visitors, appointed by the mayor. They do not act as an aid to the superintendent, as the woman's auxiliary boards do in the endowed and religious institutions, but only visit the hospital and report to the mayor what they see and hear.

DARKNESS OF NIGHT IS OVER.

We have much to do yet, of course, to build up and mold the various departments of our new hospital into a harmonious whole for the purpose of lessening the sum of human suffering and lengthening the duration of human life. Notwithstanding, however, the work which thus lies before us in attaining to our high ideals in the completion and organization of our new municipal hospital, the darkness of the night is already fading before the growing light of the coming day.

CONCLUSIONS.

Like giants from their swaddling clothes rise the great hospitals of the South. From the southern city of Baltimore on the east, where the renowned Johns Hopkins holds aloft the beacon light of scientific progress, to the far western city of Los Angeles, in southern California; from the gateway of the South, the city of Louisville, at the Falls of the Ohio to far-away New Orleans; from St. Louis, with her great system of municipal hospitals, to wonderful Atlanta; from Austin, on the sun-kissed plains of Texas, to fair Mobile; from Memphis to Savannah; and from Charleston, where the first gun was fired in the greatest conflict the world ever witnessed, to Richmond, the Confederate capital, where in imagination we can still hear the roar of the mighty artillery of Grant and Lee as they struggled for supremacy through the terrible battles of the Wilderness, Cold Harbor, Five Forks, and on to the close at Appomattox, the southern people with prodigal generosity have built and are maintaining private and municipal hospitals equal to any in the world.

Signatures are being sought in California for a petition to place on the ballot for the November election an initiative amendment providing for the establishment by the state of a system of sanatoriums, hospitals, dispensaries, and other agencies for the prevention of tuberculosis and the care and cure of persons thus afflicted. It is provided that bonds in the sum of \$1,000,000 shall be issued for the establishment of these institutions. Only persons who are taxpayers or who have lived in California at least five years, it is provided, shall be admitted to the hospitals and sanatoriums, but all persons afflicted with tuberculosis shall be treated at the dispensaries. The State Board of Health will have charge of the system. Dr. Robert A. Peers, of Colfax, is at the head of the movement.

AMERICAN MEDICAL ASSOCIATION CONVENTION— AIR PROBLEMS IN HOSPITALS.¹

Consensus of Opinion is That When Medical Science Has Worked Out the Needs of Patients, the Necessary Mechanical Equipment Can "Fill the Prescription"—Abstract of Papers Read.

[Continued from the August number.]

This symposium on Air Problems, in the Hospital Section at the Atlantic City meeting of the American Medical Association settled one thing—viz., that the whole subject of air and atmosphere, and humidity and temperature for the breathing use of human beings, is wholly unsettled, and that the scientific work necessary to settle it is just beginning to be thought about. The purpose of this symposium was to introduce the subject so that it could be taken up for study in some comprehensive way. This whole subject is not only unsettled, but it seems to be wholly uninteresting and unattractive, both from the standpoint of the hospital people and members of the medical profession. There were not a dozen people who came to the hospital section to listen to the papers to be read on the subject of air problems, and two-thirds of these were gone before the session was half over, leaving the readers of the papers and the officers of the section and a few courteous friends who were willing to make the necessary sacrifice to sit through a wholly uninteresting morning.

And yet, any member of the medical profession would admit frankly, if he were asked, that the subject of air problems is probably more important than any other that concerns the public health and the welfare of patients in the hospitals. But members of the medical profession seem perfectly willing to let others do their thinking for them on this subject. They are certainly not doing it for themselves.

PROFESSOR BASS' PAPER.

Prof. Bass' paper was the first on the program, and, being an engineer and a hygienist and sanitarian, Prof. Bass took up the physical part of the subject and attempted to only state the problem.

"The proper tests of any ventilating system," he said, "depend ultimately on biological facts." When an engineer presents the subject of air problems in this way, it seems incredible that the medical profession can remain so placid and noncommittal and disinterested through the further reading of such a paper.

"When the engineer designs a structure," he said, "he must know the forces that will tend to destroy or strain it; he must know their direction and intensity, and he must know from tests the strength of the material which is to withstand the forces."

Then he proceeded to a statement of air problems in their simplest form. Ideal air, he said, is to be found on the countrysides, on the seas and mountains, away from contamination of extraneous matter, such as the smoke of cities.

Then the thing to do about air problems, Prof. Bass said, is to create in our habitations, hospitals, dwellings, etc., conditions similar to those to be found where the air is known to be advantageous for breathing purposes; but at that point we get into some most complex side problems, and it is the very complicated character of these factors that makes the whole study of air so difficult and so unattractive. It would be impossible to duplicate nature's achievement in the matter of pure air, the reader thought;

¹This is an abstract of papers read before the Section on Hospitals, American Medical Association, Atlantic City, June 25, 1914.

that could come only after years of study and after a thorough mastery of the physiological as well as the physical sides of the problem. But there were certain "curves of comfort" that were pretty well settled, and these had to do with temperature and humidity, and he thought the first stage in the settlement of the problem was to create a mechanical system of ventilation that would be the nearest possible approach to these curves of comfort; this much having been achieved, it would not be so difficult to go on improving a little here and a little there.

Prof. Bass told of some experiments he had performed during the year under the direction of the New York Ventilation Commission. The experiments were tried out on school children, and two systems of ventilation were employed: (1) air supplied from out of doors—that is, direct ventilation by means of windows; (2) mechanically treated air, washed and rewashed, and circulated and re-circulated, being lowered in temperature each time before it was sent back to the room for another use. He found that the mechanically treated air had not lost that peculiar odor that comes into the air when a room is occupied by considerable numbers of people. But very careful physical and physiological tests were conducted by trained observers, and all these tests failed to show any appreciable difference between the two airs.

Not only the quality, physical and physiological, of air is important, but the movement of air is extremely, if not even more, important than the quality of the air itself, and the influences of air movement are probably less understood than any other part of the subject.

For present purposes, Prof. Bass held that for small hospitals the best results were being obtained by vent registers at the ceiling of rooms, connecting to ducts terminating at the roof, accelerating coils being inserted. In this system, entering air is not controlled, but comes in through windows or by leakage. The reader thought this system would not do all for large hospitals, and, as those institutions grew in size, so the ventilation problem became more and more complicated, but he didn't think the average hospital engineer, or rather the engine room operator, was capable of doing any responsible work in this field without the direction of trained experts.

In conclusion, Prof. Bass emphasized the point that studies of ventilation systems and ventilating equipment must be made with the proper goal clearly in mind—viz., to secure proper temperature and humidity regulation, to keep the air in motion and properly distributed, and to prevent offensive odors from circulating.

PROF. WINSLOW'S PAPER.

Prof. C. E. A. Winslow, chairman of the New York State Commission on Ventilation, read the next paper, his subject being, "The Importance of Studying the Actual Condition of Hospital Air." Prof. Winslow thought the first thing to be done about this topic was to agree on a starting point. "We hear on the one hand that costly ventilation plants have altogether failed, and that the only way to keep a hospital in good condition is to abandon fan ventilation and admit fresh air by way of the windows," the speaker said; "on the other hand, there are signs of a reaction against this view, and we hear whispers that even in the most advanced open-air hospitals conditions are by no means always ideal, particularly at night and when the superintendent is not in the wards."

Architects and engineers, the reader thought, to say nothing of hospital trustees, are finding themselves buffeted about in a most confusing manner between the various disputants. Ventilating plants which cost many thou-

sands of dollars are lying idle in hospitals all over the country, and new hospitals are being built in which no artificial ventilation is planned at all; and yet, if it finally develops that mechanical ventilation is the thing, far greater expenditures will be necessary before an installation for these buildings can be completed. The curious thing to Prof. Winslow is the fact that nearly all the conclusions arrived at in regard to air problems seem to be based on nothing more or less than suspicion or "belief," since no scientific arguments have been brought to substantiate the various radical views—indeed, there are no scientific arguments at hand.

Prof. Winslow thinks with a sling psychrometer and an anemometer some important facts can be obtained, and he thinks these two instruments are as necessary to the student of ventilation as are the clinical thermometer and blood testing apparatus to the practicing physician. It has been clearly shown by eminent physiologists in Germany, England, and this country that the discomfort and physiological disturbance experienced in a badly ventilated room are primarily due, not to chemical impurities in the air, but to heat and humidity—not to respiratory phenomena, but to derangement of the vasomotor mechanism. Predicated on these assumptions, the reader thought there was great need of some accurate records of temperature and humidity under conditions in the room and condition of patients that could be definitely evaluated; but it is also necessary, in connection with the same set of studies, to observe changes in the patient and in the air due to air movement, and on this factor undoubtedly depends the objectionable odors in stale or overused air in hospital wards. It is necessary, therefore, in connection with these tests to determine the carbon dioxide constituent, and, if atmospheric dust can be measured at the same time, and also the number and character of suspended bacteria, the tests would be even more valuable.

Prof. Winslow told of a series of 1,800 observations made by himself and Prof. Baskerville in connection with a study of school-room ventilation in New York City. "The result of this study," Prof. Winslow said, "was to show, in the first place, that the hectic accounts of New York school-room air, which had been spread broadcast, were, as Mark Twain said of his own premature obituary, 'grossly exaggerated.'" The speaker gave the figures of these tests, which showed some interesting facts. The conclusions were that most of the school rooms in New York City were not in bad shape at all on the score of air, but a few of them needed attention, and the remedies were applied as a part of this work.

Prof. Winslow admitted that his purpose in preparing this paper was to help in the effort to create an interest in a study of air problems, and to insist on the employment of scientific means which are really at hand, but scarcely ever employed. He did not think the subject was veiled in mystery, or that the problem was incapable of solution. He thought it needed only a proper approach.

DR. JAMES ALEXANDER MILLER'S PAPER.

Dr. Miller's paper was "Hospital Ventilation from the Viewpoint of the Clinician." The reader thought there was a consensus of opinion in the medical profession that the chief desire in the matter of air for hospitals was to reproduce out-of-door conditions by the opening of windows. He could well understand why this attitude was so common—on the one hand, the increasing popularity of the open-air method of treatment for many diseases, and on the other a diminished confidence in the adequacy of mechanical ventilation systems as usually installed and

operated. The speaker thought it was a favorable sign that medical men were even asking questions about air problems, and he thought that as they discovered more and more that out-of-door fresh air could not always be had in hospitals, they would be willing to turn their attention in a greater measure to the study of air problems, as these affected the larger metropolitan hospitals, where it is a practical impossibility to use open window ventilation. He thought there was no doubt that window ventilation is best, because out-of-door air does really lend itself to the treatment of many diseased conditions, prominently tuberculosis, pneumonia, the various anemias, heart diseases, certain nervous disorders, septic conditions, typhus and typhoid fever, etc. But there are other conditions where open air is to be avoided, especially open air in rapid circulation—for example, in acute, catarrhal affections, laryngitis, bronchitis, some of the acute kidney diseases, the arteriosclerosis of elderly people, acute rheumatism, and the like. Contemplation of the varying necessities of these different diseases presents the problem of air as a most important one for the clinician. It is the necessities of these different classes of patients that have made balconies and porches so prominent a feature of hospital architecture in recent years, and this, too, is the reason why small wards are more desirable than large ones. But, even leaving aside the care of individual patients either in isolated rooms or by some out-of-door method, there are the large general wards to be considered, and there is no doubt that under the present methods of air control some patients are badly hurt, while others are greatly benefited.

As to the actual value of fresh air, the speaker was not so sure. He thought the question of temperature, humidity, and the pressure under various degrees of motion, together with certain well-known positive impurities—chemical, bacteriological, or physical (dust)—had more to do with the improving or unmaking of fresh air than any of the mysterious conditions of the air itself. He thought also that carbon dioxide had, in the light of recent experiments, lost a good deal of its terrors, and also the more insidious so-called organic volatile poisons. He thought none of these was as bad as it had been painted.

As for the clinical effects of varying airs on patients, the reader thought some interesting and really valuable work had been done. For instance, he believed it was now agreed that the blood pressure tends to rise in low temperatures and with increased barometric pressure, and that it falls with increased humidity and rising temperature. He thought it was also agreed that the body temperature was to some degree controlled by the surrounding air, and that the pulse rate is influenced by it to a certain degree.

The writer spoke of experiments that he had made to reproduce the results of some experimenters in regard to blood pressures, etc. He used children in his experiments, and tried to confirm the work of Howland and Hoobler, which showed that the blood pressure of children promptly changed when removed from a room to the open air. His experiments did not confirm the earlier findings. Some other experiments made in collaboration with Prof. F. S. Lee, of the New York State Ventilation Committee, were a little more satisfactory. Normal young adults were used, in which a high temperature—86° F.—and 86 percent relative humidity over a period of four hours gave definite rises in pulse rate and less marked diminution of blood pressure, and little or no changes in the body temperature. Similar observations at moderate temperatures—68° F.—and low humidity—50 percent—showed a distinct fall in pulse rate and temperature, with little change in the

blood pressure. In another series of observations, the subjects, after the four-hour exposure to heat and humidity, were quickly exposed to cold air—60-65° F.—and drafts from fans; as a result, the pulse rate fell and the blood pressure rose. All these observations corroborated those of Howland and Hoobler and others, and would seem to suggest that the clinical good effect of cool and dry air may be measurable in terms of pulse rate, blood pressure, and body temperature.

But such studies, however, are simply beginning, the reader thought, and pointed the way to many unsolved problems before it can be stated with definiteness just how open or fresh air produces its good effects, and how we should differentiate to best advantage in the selection of cases and in the relative importance to be placed on the various factors in the air.

The reader was not at all sure that the so-called ideal conditions were in reality ideal; he thought that open-window ventilation could oftentimes give too much air for some patients and too little for others, and he doubted whether it was possible to regulate the problem of drafts and pockets of bad air in the corners. He thought the evil influence of drafts was very much exaggerated in the lay or even the clinical mind, and that, although the best books ascribe some eight-odd diseases and conditions to exposure to cold and drafts, yet recent studies tended to show that these conditions are usually due to bacterial infection, in which exposure plays little or no part.

PROF. FREDERIC S. LEE'S PAPER.

Prof. Frederic S. Lee, professor of physiology in Columbia University, had for his topic, "Laboratory Experiments with Air." Prof. Lee, in his paper, recited the scientific work that had already been done in the laboratories of the world, covering many years, on the subject of air conditions, but he admitted there were many unsolved problems that were still under the acute study of scientific men, some of which had to do with a coordination of the physiological with the laboratory side. He thought the laboratory was capable of some very able assistance to the clinician, but it had hardly been approached in a proper way as yet—the details of air conditions must be analyzed. To reiterate over and over again that air that has once been breathed is "bad" air and that "bad" air is "bad" air, without defining in what its badness consisted, is a sin not only against scientific reasoning, but also against common sense, and yet he had seen that sin committed. The same thing was true about the iteration and reiteration of the value of "fresh" air without making any effort to define what there was in its freshness that had virtue. This, he thought, was suggestive of an undeveloped stage of the subject or in the mind of the observer.

It was not Prof. Lee's purpose or function, he thought, to advise regarding ventilating methods, and he contented himself with suggesting that no ventilating method can be expected to be effective unless it is based on facts regarding the human well-being, which the laboratory is able to settle.

ARTHUR K. OHMES' PAPER.

Mr. Ohmes had for his topic, "Hospital Ventilation from the Engineer's Standpoint." The reader gave an interesting account of some mechanical ventilation plants in various parts of the country, among these the new Woolworth Building in New York City, where fresh air was brought from above the city down into the subway parts of the building, such as the deposit vaults, swimming pools, restaurants, kitchens, etc., and where it was

again hoisted more than a thousand feet and released as vitiated air at the roof of the building. The principle to which Mr. Ohmes addressed himself in his paper was that the engineer is capable of creating with a mechanical installation any condition in the air of a hospital or room prescribed by the clinician, but he did not think it was the part of the engineer or mechanic to also write the prescription for what was wanted in the form of hospital air. He elaborated in his paper on the advanced state of the art in mechanical ventilation, but insisted that it is limited by the undeveloped state of the art from the clinical and physiological standpoints.

T. J. VAN DER BENT'S PAPER.

To Mr. Van der Bent is due the thanks of the medical profession, architects, engineers, and everybody else for his disinterested and laborious work of preparing this symposium. He has been working on air problems in his architectural labors for years—not with a view to settling them, but with a view to commanding the attention of those whose business, he says, it is to settle them—viz., hospital people in the medical and allied professions. Mr. Van der Bent, in his paper, therefore urged the study of the whole subject, and he felt that he had performed a useful function in bringing together men who were seeing this problem from different points of view. In his paper, Mr. Van der Bent gave a delightful little resume of the history of hospitals, beginning almost at the dawn of history and coming down to date, especially in regard to their methods of giving patients fresh air. As early as 1788, he said, closed courts and crowded hospital buildings were condemned and the condemnation has been going on ever since. "Why is it, then," he asks, "that we see the greatest overcrowding of buildings on small city blocks and even many of the new German hospitals?" And he proceeds to answer the question by insisting that mechanical ventilation is responsible for conditions that could not otherwise be attained.

Mr. Van der Bent insisted that it was the business of the medical profession and the allied sciences to solve this problem of air, and to formulate the solution in the shape of rules for the consideration of hospitals and other buildings. He thought such a committee as this, or a committee along allied lines, should also get to work for the solution of many other architectural problems. Architects, he said, were waiting to be informed what the medical profession wanted, and architects were quite capable of giving to the medical profession whatever its scientific dictates required. He thought it was high time that some scientific approach was being made to these subjects.

A fire at the Josephine Hospital in St. Louis July 30 did damage to the extent of \$3,500. The institution is a private one conducted by Dr. Frank J. Lutz, a former president of the St. Louis Medical Society. Although some of the patients were in a helpless condition, all were safely removed.

A \$50,000 county hospital is being erected in Kingsville, Tex. It is to be a two-story reinforced fireproof structure, with a large basement. The exterior will be finished with hollow tile and stucco. The building is 40 feet in width and has a length of 86 feet. All of the floors are of concrete. The basement will have a kitchen, janitors' room, morgue, laundry, boiler room, toilet, baths, elevator, and x-ray room. On the first floor will be a reception room, six wards, toilet, baths, office, elevator, pantry, storage room, a long corridor, and a screened-in porch. On the second floor provisions will be made for twelve patients' rooms, a sterilizing room, operating room, etherizing room, wash rooms, baths, toilets, and a screened-in porch. The equipment will be strictly modern.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General
U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General
U. S. Army.

Sanatorium or Bathing Institution? (Heil- oder Bade-Anstalt?)

A private sanatorium in Dresden gave its patients various medical baths, as light, carbonic acid, oxygen, and other baths. The city authorities declared the establishment not a sanatorium, but a bathing institution, and suppressed it for moral reasons. The proprietor appealed to the courts, but lost in all instances.

The New Nurses' School at the Ospedale Maggiore in Milan (La nuova scuola infermieri all' Ospedale Maggiore di Milano). Rivista ospedaliera, Roma, 1914, V, No. 4.

The administration of the Ospedale Maggiore in Milan has decided to establish a nurses' school in connection with the hospital. The students will get free board and lodging, and after the first six months a small compensation for their services.

Radium Treatment in the City Hospitals of Charlottenburg (Radiumbehandlung in den Städtischen Krankenhäusern von Charlottenburg). Ztschr. f. Krankenanstalten, Leipsic, 1914, X, No. 29.

The hospitals of Greater Berlin have formed an association for the purpose of acquiring 870 milligrams of radium; 125 milligrams have already been obtained, and suitable patients are treated with it. No special charge is made for radium treatment. The treatment is administered by x-ray specialists, who have taken a special course at the Royal Charity Hospital.

The Sanitary Waiting Room. W. C. Rucker, Assistant Surgeon General, United States Public Health Service. Reprint No. 147.

The author includes all places where considerable number of people come in more or less intimate contact. He claims that they are dangerous from the standpoint of sanitation, that they frequently offer opportunity for the ready interchange of organisms of disease, and, unless such places are maintained in a cleanly condition, they may be responsible for breeding contagion. In such situations, persons in the active or in the chronic carrier stage of a disease have ample opportunity to infect others, especially if they are careless in their personal habits, and through ignorance or carelessness are heedless of the health of others. In waiting rooms expectoration is frequently promiscuous, and occupants are sometimes obliged to breathe a vitiated and overheated atmosphere. Since the lethal common drinking cup and the deadly common towel have been banished by interstate quarantine regulations, and the purity of drinking water is insisted on, the

author believes an appeal to the public in behalf of the object will go far toward making the waiting room sanitary.

Should Nurslings be Cared for in Hospitals? (Sidebono ospedalizzare i lattanti?) Varanini. Arch. di scienza ospedaliera, Bergamo, 1914, IV, No. 5.

In former times hospital marasmus was the great scourge of infants' hospitals, but now this can be prevented. If the hospitals are constructed according to the principles of hygiene, managed by competent men, and if the most careful attention is paid to the children, hospital epidemics and hospital marasmus will be prevented. As the dangers can be averted, nurslings should be cared for in hospitals as far as the needs require. Caring for the babies of poor people at their homes is not sufficient to reduce infantile mortality, which is extremely high in Italy.

Report of Committee on Inquiry into Department of Health and Charities and New York Hospitals.

The report claims to show why hospital work is less efficient than in Europe and why medical advancement with us is less rapid than in Europe; that the large percentage of incorrect clinical or ante-mortem diagnosis is partly due to the lack of medical knowledge among our better class of practitioners, and partly due to hasty and insufficient examinations. Too much reliance placed on inexperienced house physicians and interns also accounts for a portion of the errors. The report shows weakness in our hospital methods, even in our great centers, and an imperative need of more frequent autopsies. It is apparently believed in New York that publicity is as important in relation to hospitals as in other public utilities.

Industrial Insurance. J. W. Schereschewsky. Med. Record, New York, 1914, No. 2.

In his paper before the National Association for the Prevention of Tuberculosis the author draws the following conclusions: Industrial sickness insurance is an economic necessity in modern social evolution. The basis on which industrial insurance should rest is the prevention of illness and physical disabilities. Frequent periodical physical examinations of workers constitute the logical means by which defects and diseases can be detected in their incipency. The scope of such examinations should be extended to include home as well as factory conditions. Industrial insurance based on preventive measures should redound greatly to the benefit of society by reducing the annual loss of time through illness, by establishing hygienic standards for industries, by favoring the enactment of uniform industrial legislation, and by increasing the efficiency of local health authorities. The cost of carrying industrial insurance based on preventive principles should be less than that of the present system.

Parasitism of the Clinical Institutes of the Universities and the Italian Hospitals (Il parasitismo degli istituti clinici universitari verso gli ospedali italiani). Rivista ospedaliera, Roma, 1914, V, No. 5.

The Italian hospitals labored of late years under great financial difficulties, and one of the principal causes is the fact that the hospitals have to bear almost all the expenses for the university clinics. When the Government created the various university clinics, it compelled the hospitals to furnish the necessary space and material for the instruction of the medical students, with the understanding that the Government would compensate the hospitals for any extra expenses incurred by such an arrangement. But instead of carrying out this agreement generously, the Italian Government has been very niggardly with its com-

pensations, which have always been far less than the actual expenses. The hospitals do not refuse to lend a hand in the teaching of medicine, but they ask for a full compensation of the expenses incurred. Recently the Italian Government has undertaken to erect sumptuous buildings for a university clinic in Genoa. This clinic is to be connected with the Pammatone Hospital, a venerable institution, and one of the oldest hospitals in Italy. This hospital is already burdened with a large debt, yet the Government laid three-fourths of the great expenses for the new clinic on the hospital. The author thinks that the law ought to be changed in such a manner that the hospital can be generously compensated for the expenses incurred in the construction and maintenance of all university clinics.

Hospitalization of the Tuberculous (Par la spedalizzazione dei tubercolosi). Ospedale Maggiore, Milano, 1914, II, No. 4.

A special committee of the medical society of the province of Milan met recently to discuss the question of hospital care for the tuberculous. The mortality from tuberculosis in the province of Milan is greater than that of any other region of Italy. Dr. Secchi declared that the city of Milan alone needed an increase of 500 beds if all the tuberculous of the city are to be cared for. It was finally proposed that each community build a small tuberculosis hospital, or that several communities should unite to establish a common sanatorium for the tuberculous.

On the Establishment and Working Results of the Slaughter House and Bakery of Kutzenberg Hospital (Ueber die Einrichtung und Betriebsergebnisse der Anstalts-schlächtere und Bäckerei Kutzenberg). Ztschr. f. Krankenanstalten, Berlin, 1914, X, No. 28.

The high prices for meat and bread induced the administration of Kutzenberg Hospital to establish its own slaughter house and its own bakery. The butcher trust of the city of Bamberg compelled the hospital to pay high prices for frequently inferior meat. The step was especially advisable, as the hospital is able to raise on its large estates enough cattle to cover all the demands of the hospital for meat. For similar reasons a hospital bakery was established. The hospital has now cheaper, better, and more sanitary bread than it could obtain from the bakers. Both establishments proved to be a great financial success.

A Ward-Cooling Plant in a Hospital. A. M. Feldman. Metal Worker, New York, 1914.

The author designed the cooling plant and supervised its installation in two small wards of the Mt. Sinai Hospital of New York. Outdoor air is forced by motor-driven sirocco fan through a water chamber in which the water is cooled by brine coils. From this chamber the air is forced through an upper chamber filled with additional brine coils, thence through short ducts into the wards, where cooled air enters near the floor level. The vitiated air escapes through open transoms. The possibility of warm air entering from the corridor is eliminated. In the type of air washer used the air is forced through a body of water, a float-controlled valve maintaining a uniform water level as the supply water is lost in evaporation. A brine coil of 5 square feet is immersed in the water of the washer, and 66 square feet of additional cooling surface divided into three sections is installed in the upper shell. The air is thus washed and partly cooled by passing through cold water and then passing over the cooling coils above. It is interesting to note that, while low temperatures were obtained in the cold room, the rela-

tive humidity was approximately the same percentage as that in the main ward with higher temperatures, thus indicating that the absolute humidity was reduced by the process of cooling. As beneficial results were reported, it may be inferred that air conditioning by lowering the temperature, and reducing the absolute number of grains of moisture, produces the effect, notwithstanding that the relative humidity may still show a higher percentage. The author made this deduction in a series of other observations.

Hospital Troubles in Rome (Krankenhausnöte in Rom). Ztschr. f. Krankenanstalten, Leipsic, 1914, X, No. 27.

Until lately the Roman hospitals had their independent administration. Their income came mostly from landed possessions, and amounted to 5,000,000 francs, to which the Government of Italy added 3,000,000. But as this money did not cover the expenses, the hospitals made debts until they found themselves in great financial straits. The Government then placed the affairs of the hospitals in the hands of a royal administrator, with directions to limit the expenses in such a way that the hospitals are cleared from their debts. He closed a number of small hospitals, discharged a great number of nurses and physicians, and employed a number of highly paid supervisors over physicians and nurses, which cost the hospitals large sums. He made the reception of patients into the hospitals very difficult. Only the poorest people were admitted without pay, and all others had to give security for a daily payment of at least 7 francs per day before they were admitted. This caused so much bad blood among the people that recently a general strike against the hospitals was declared.

When is a Hospital Efficient? Editorial in Med. Rev. of Rev. New York, 1914, June.

The editor believes, in determining efficiency of medical work, it is advisable to submit one's self to interrogations to bring out our opinions on the work accomplished. The Boston Dispensary has prepared a chart suggesting efficiency conundrums, the answers to which underlie efficiency tests. The keynote of hospital and dispensary service lies in the results in themselves that are to be understood and interpreted through testing them—a statistical compilation of number of patients treated, or the days of treatment, fails to indicate the actual accomplishments of an institution. The knowledge that constitutes power can come only from testing results in the light of the general good that has been accomplished. The restoration of a patient to society in proper condition, enabling him to resume his duties and responsibilities, is one test of efficiency of present-day hospital methods. By this test most hospitals would fail to be classed as satisfactory social agents.

The Hospital's Responsibility in the Practice of Fee-Splitting. Editorial in Jour. Indiana Med. Assn., Ft. Wayne, 1914, VII, 333.

The writer believes only those who are benefited by the practice fail to condemn it, and very few of them have had the temerity to defend it. Since the undivided effort of the best of the medical profession is directed to this end, the obligation of trustees of hospitals and religious sects cannot be evaded. If men who countenance fee-splitting, and delude and fleece their patients, are admitted to the hospital staff, the institution is morally responsible. The unfortunate patient who goes to a hospital and is defrauded and mistreated by a fee-splitting doctor will hold the hospital, in a measure, responsible. In the crusade against a dishonest practice the public expects earnest,

intelligent, and efficient help of hospital authorities, and all the moral, charitable, and religious forces back of them. If hospitals withheld the use of their wards to fee-splitting doctors, he believes the practice would soon be abolished.

Health Dependent on Humidity Control—Modern Heating System. W. R. Beckley. Metal Worker, New York, 1914, July 24.

The ideal heating system was once considered the one which was capable of maintaining even and satisfactory temperature. Later pure air was recognized as a necessity. Proper heat, with proper ventilation, was then considered the ideal condition. Today it is recognized that pure air and heat alone are not sufficient. Air, to be healthful, must be not only of the proper temperature and purity, but should contain certain amount of moisture per cubic foot. Humidity in our dwellings demands attention. No system of heating, whether steam, hot water, or warm air, adds moisture. The fact that a heating system may not lose any moisture in heating the air is not sufficient. Dry air has great affinity for moisture, the result being that heated air with a humidity of 12 percent immediately seizes on any moisture it can find. The human body is one of the largest contributors. Furniture and wood is another source. Any article in a room containing moisture is attacked and robbed, the result being that the air is able to obtain enough moisture to produce a relative humidity of between 20 and 28 percent. In obtaining such moisture a direct and permanent injury is the result. A relative humidity of 12 percent is practically an unlivable humidity. The average relative humidity in the American home during the period requiring artificial heat ranges from 20 to 28 percent drier than the driest climate known. Such a condition exists irrespective of the type of heating plant. Neither steam nor hot water apparatus adds moisture unless that system is leaking, for moisture cannot ooze through an iron pipe. The warm air system cannot add moisture, and in some cases may lose a little in the process of heating. The writer regards the steam or hot-water system better than the warm air, when considered from a humidity standpoint, only in so far as it may not lose any of its original moisture, but the results obtained from this fact are so small that they can be practically ignored; that every heating plant is defective from the humidity standpoint, and a solution of this important matter lies not in the heating plant itself, but in the installation of an apparatus that will furnish the necessary amount of moisture in connecting with the heating system. Water will evaporate only from its surface. In conclusion, he claims it is necessary, if efficiency is to be obtained, to devise a method of producing a large water surface at a point in the furnace casing, or in the indirect steam or hot water duct, where it will obtain heat, and at the same time will not affect the efficiency of the heating plant.

Carnegie Foundation and Education.

In his address at the testimonial dinner tendered him May 19, 1914, Dr. S. P. Kramer referred to features in the charter of the Carnegie Foundation which affect the medical institutions of Cincinnati. In the department of Hospitals Organization and Powers, section 139 provides that the head of the Department of Hospitals shall be the Board of Hospital Commissioners of seven members. Three members of this board are to be citizens appointed by the mayor; members one to seven without compensation, and the department shall manage and supervise all hospitals of the city. The speaker stated that neither to

the bishops of the Church nor to the bishops of finance, but to the people who support the university, shall the control of the institution be given; that if the people of Cincinnati are generous enough to build and maintain a university and a great hospital, then these institutions should be managed by the people and for the people, independent of any control by the Carnegie Foundation.

Palace to Be Hospital.

A Budapest correspondent, under date of August 3, informs the press that Countess Szechenyi, formerly Gladys Vanderbilt, has placed her palace at the disposal of the army, and 600 reservists were then quartered there. The correspondent adds that the countess intends to organize a Red Cross corps and use the palace as a hospital.

Tokio Hospital.

St. Luke's Hospital, Tokio, established some years ago through medical missionary channels of the Episcopal Church, is now to become a thoroughly modern international hospital as a practical monument to international friendship and cooperation in medical science. Many American residents of Tokio are interested. This project of the recent Japanese Council was presided over by Count Okuma, the Japanese premier.

Hospitals in Greater New York.

If the Charter Revision Committee carries out the recommendation of the hospital committee of the Board of Estimate, the department of public hospitals will be a separate and distinct feature of the city administration of Greater New York. By combining the Bellevue and allied hospitals with public hospitals of the department of public charities in Brooklyn, Manhattan, and the Bronx, the department of public hospitals will be established.

Metropolitan Life Insurance Sanatorium.

The Supreme Court of New York having decided the right of the Metropolitan Life Insurance Company to establish such provision for treatment of its employees suffering from tuberculosis, the Metropolitan becomes the pioneer in such an enterprise. In the presence of officials and guests the new tuberculosis sanatorium at Mt. McGregor, a few miles from Saratoga, was recently dedicated and opened. It has at present 69 patients, and when completed its capacity will be 229.

Venereal Diseases to Be Reported.

As the Lancet-Clinic (Cincinnati) states, Montclair, N. J., is well to the front in sanitary matters, and now comes forward with well-conceived regulations of its board of health in the matter of careful registration of venereal diseases. They provide, in part, that the superintendent or other officers in charge of public institutions, as hospitals, dispensaries, clinics, homes, asylums, etc., including all institutions supported in whole or part by voluntary contributions, be required to report promptly to the board of health the home, age, sex, nationality, etc., with address, of every patient under observation suffering from syphilis or gonorrhea of every kind. All information is to be regarded as absolutely confidential, and will not be accessible to the public, nor will the records be deemed public records. It appears to be an excellent regulation, fair to patient and physician in the endeavor to protect the public.

A permit has been issued for the new St. Mary's Keller Memorial Hospital to be built on Hickory street, South Scranton, Pa. The cost of the structure is estimated at \$44,000.

INDEX OF HOSPITAL AND SANATORIUM LITERATURE

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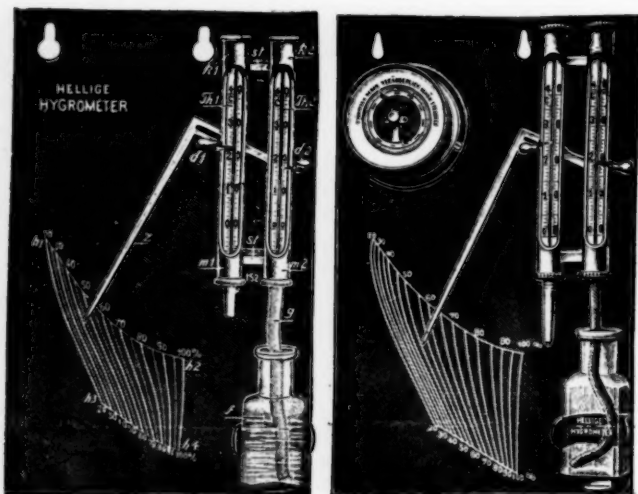
Cool-headed nurses prevented a panic when a fire, caused by the explosion of a fumigating apparatus, broke out recently in the maternity pavilion of the Hospital of the Good Shepherd in Syracuse, N. Y. There were nine women and ten babies on the floor where the fire started, but all were safely removed. In the confusion, however, the babies got mixed, and this proved another cause for excitement. The damage to the building was not serious.



Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

A New Hygrometer.

Weather forecasts and hygienic consideration, especially in school rooms and hospitals, require often an accurate knowledge and forecast of the moisture in the air, usually determined by means of the hygrometer. Two kinds of such instruments are used. The first type, the "hair hygrometer," is simple and convenient, but very inaccurate. The thread will soon lose its elasticity and reliability. The second type, the "psychrometer," consists essentially of two thermometers compensated to each other, of which the mercury bulb of the one is permanently kept moist by means of a wick dipped in water. The difference between the two thermometers will, together with a few



Hellige hygrometer.

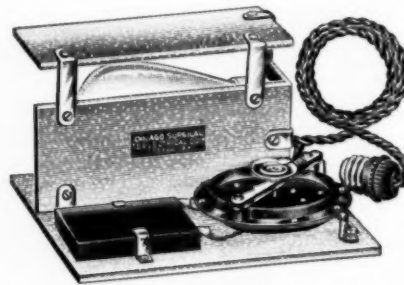
other physical constants, give direct means of measuring the moisture in the air prevailing. Such instruments are exact, but inconvenient. They either require the adjustment of indices on scales with a labyrinth of crossing lines, or the percents have to be tediously computed by means of tables, with all the errors attending the same. The new Hellige hygrometer combines the advantages of both these systems, without their disadvantages. Its operation is extremely simple. It is only necessary to push the two levers *d1* and *d2* up to the menisci (semi-spherical surfaces) of the mercury columns. This will operate the long index *z*, which indicates direct the moisture in the air on the scale.

Electrically Heated Incubator.

The principal objection to many gas-heated incubators is the continuous watching that is required for the maintenance of a constant temperature. This is especially true where mercury regulators are used in connection with

gas heaters, as it is apparent that the mercury has a tendency to oxidize, retarding its sensitiveness to thermal changes. As most hospitals have a bacteriological incubator in their laboratories, the device illustrated should prove of interest, since by using this small thermostat any gas-heated bacteriological incubator can be quickly changed into an electric.

The apparatus consists of a carbon filament lamp, an electro thermostat, and a condenser, all mounted on an insulated bracket. The entire apparatus can be placed in one corner of the incubator and the conducting cord for supplying current run through a small hole, which will generally be found in the bottom of the incubator. The



Electrically Heated Incubator.

controlling device or thermostat is, of course, the essential part of the apparatus. The diaphragm of this thermostat consists of a rubber and metal disk, riveted together and clamped securely together around its periphery between two special steel rings. As the expansion of the rubber when exposed to heat is greater than that of metal, the diaphragm will move away from the small platinum point at the end of the adjusting screw, thus momentarily breaking the electric circuit. Just as soon as the temperature drops a trifle, the diaphragm again touches the point, closing the circuit and lighting the electric lamp. Heat is thus generated until the point is reached where the expansion of the rubber will again open the circuit and the process is automatically repeated. By varying the pressure between the adjusting screws and the diaphragm, different degrees of heat in the incubator may be obtained.

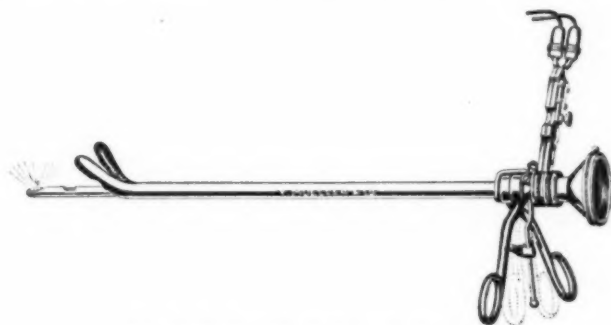
A Practical Instrument for Endovesical Operation.

BY DR. HUGH H. YOUNG, BALTIMORE, MD.

A great variety of instruments has been designed for the removal of papilloma and tumors in the bladder, but most of them were so complicated or clumsy that they were either never used at all or soon abandoned after it was found that no satisfactory results could be obtained. The operating instrument designed by Prof. Nitze, which had among other features a snare attachment, probably was used more than any of the others, but the portions that could be engaged with the snare were necessarily very small, and consequently the same procedure had to be gone over a number of times in order to remove a tumor of only fair size, and after it had been finally cut off the debris was evacuated only with great difficulty.

Dr. Hugh Young, of Baltimore, not being satisfied with the results obtained from the Nitze and other types of instruments, had his instrument makers construct several different models of an instrument which he had in mind, and, while with some of them he could work with a certain measure of success, they were not satisfactory, however, until the instrument illustrated here was finally constructed. The Doctor calls this instrument an endovesical rongeur, which consists of two parts, one working within the other and both attached to scissor-like handles,

an obturator and a lens system with electric bulb and connections. The instrument may be introduced closed, being then somewhat similar to a large Coude cystoscope. After introduction into the bladder, the obturator is withdrawn and the bladder is irrigated through the lumen of the instrument. The cystoscope is then introduced through the inner tube until it projects well into the bladder, and the closed beaks appear in the center of the field. In order, then, to keep the cystoscope from revolving with the inner tube, and to have the rongeur jaws always come together in the center of the field, the shaft of the instru-



Dr. H. H. Young's Cystoscopic Rongeur.

ment is fixed to a small rod, which runs upward and connects with the shaft of the screw which manipulates the external handles. The screw always remains midway between these two handles, and therefore is always midway between the two rongeur jaws, so that when the cystoscope has been placed in the proper position and fixed to the screw mechanism, an excellent view is obtained of the operation of the jaws in the bladder, and are thus made to invariably come together in the center of the field. This mechanism makes it possible to use the instrument with great precision, thus removing the difficulty experienced in other endovesical cystoscope forceps—namely, the movement of the object out of the field when the jaws are brought together. By means of this cystoscopic rongeur it will now be possible to do many endovesical operations which were heretofore impossible.

Hemostat Tonsillectome.

DESIGNED BY DR. B. D. LA FORCE, OTTUMWA, IOWA.

At a meeting of laryngologists last October, Dr. La Force presented a new instrument for the enucleation of the faucial tonsil with the capsule, and he claimed that with this instrument one may (after having mastered the technic) perform a practically bloodless tonsillectomy. Since then we have received very favorable reports from several laryngologists who have given this new instrument a thorough trial. The instrument has two new features which, as far as we know, have not been incorporated in former tonsil enucleation instruments—namely, a hemostat or crushing blade and a ligature carrier. The component parts of the instruments are a powerful handle, a hemostat with two crushing surfaces, something similar to the blade of an artery forceps, which are about 2½ mm. wide, a ligature carrier, a cutting blade, and an opening almost square in which the tonsil is engaged.

The tonsil is engaged into the fenestra of the instrument after the method of Dr. Sluder, the crushing blade forced down back of the tonsil, and all of the tissues immediately in apposition to the tonsil held firmly between the two crushing surfaces by screwing down the wheel attached to the crusher. The hemostat is allowed to remain in place from five to ten minutes.

If ligation is to be done, the ligature is placed in the groove over the end of the ligature carrier, with the ligature held firmly against the end of the carrier by engaging the ligature, after being tightly drawn, into a small spring catch. The ligature carrier is then pushed forward through the pedicle produced by the hemostat, the ligature released from the spring catch, and the ligature carrier brought back, leaving the loop on the farther side of the pedicle. The loop is then caught with forceps and



Hemostat tonsillectome.

brought around the handle end of the instrument, one end of the ligature passed into the loop, and the ligation of the pedicle completed by tying it either with or without a ligature knot tier made for this purpose.

After the hemostat has been applied for from five to ten minutes, or after the ligation has been accomplished, the smaller wheel is turned to the right and the tonsil cut off, being held with forceps and removed. The larger wheel is then turned to the right and the catch on the hemostat released, so that the instrument may be removed from the throat.

An X-Ray Transformer for Therapeutic Purposes.

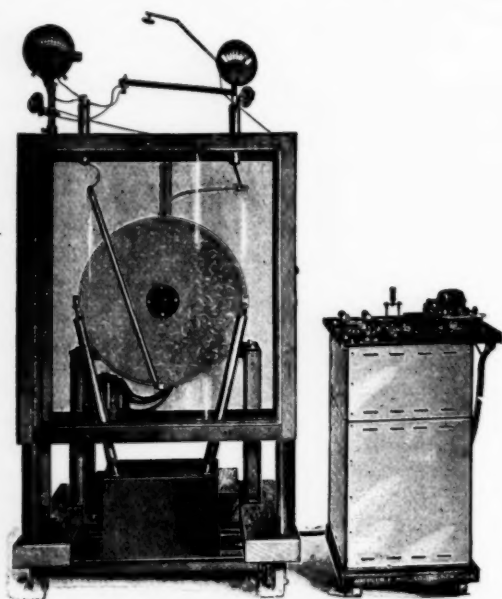
Since the deep therapy method of Profs. Kroenig and Gauss has been found very generally effective in the treatment of myoma and other diseases, radiographers have at times found it difficult to adapt their apparatus for the delivery of the proper current under necessary control, so that the technic of Kroenig and Gauss can be carried out.

The generators that are employed at the Freiburg clinic are usually coils equipped with mercury interrupters, and, while valuable improvements have been made in the construction of both coils and interrupters, the latter still offer some objections on account of the frequent cleaning required. European manufacturers have not reached the high state of perfection in building so-called interrupterless transformers as have our American manufacturers, which probably accounts for the lack of more general use of transformers abroad than in this country. There are at the present time several American-made transformers that may be successfully used for both treatment and radiographic purposes. Again, other types are not suited for both classes of work on account of the lack of control of current or from the fact that they will not satisfactorily generate the high voltage necessary in carrying out the method referred to.

The generators that are employed at the Freiburg clinic are usually coils equipped with mercury interrupter construction, but so designed that a current of higher voltage with less amperage may be had than with many other types. The transformer proper is placed in the lower portion of the cabinet. Above is a

synchronous motor, with rectifying switch and the customary terminals for delivering current to the x-ray tube. On the side of the cabinet are mounted the necessary starting switches.

All controlling of current is done from a control stand, which is connected to the transformer with flexible cables. This arrangement allows of the installing of the

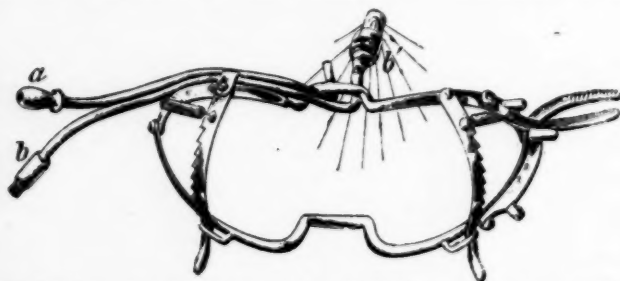


Wappler Treatment Transformer.

controller at any distance from the generator, a great advantage in many cases, such, for instance, as when a separate room is used for the transformer. A periodic interrupter is supplied to give intermittent flashes of x-ray. In addition, a winding is provided in the transformer to enable the operator to produce radiographs of high quality.

Improvements on the Whitehead Mouth Gag.

The Whitehead mouth gag has been used by the profession for many years, and, notwithstanding that many so-called improvements and new models have been offered, it is still the most popular mouth gag for operating in the mouth and throat. Recently Dr. Marschik, of Vienna, suggested that an anesthetic tube be attached, and in addition a miniature electric lamp for illumination of the



Whitehead mouth gag, as modified by Marschik. a, anesthetic tube; b, electric connection and lamp.

mouth and throat. This has been accomplished in a very satisfactory manner and in such a way that it does not in the least interfere with the field of examination or operation. The lamp socket is connected to a short flexible spiral spring, to prevent irritation of the roof of the mouth, by the lamp. So-called cold metal filament bulbs are used, consequently, there is not sufficient heat generated to annoy the patient. The whole instrument can be rendered sterile by boiling.



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Ethics of Nursing.

BY GEORGE E. MAY, M. D.,

Surgeon to Newton Hospital and Chairman of the Executive Committee.
[Continued from the August number.]

The following is a quotation from the letter of a private duty nurse:

"One trouble is that things are so confusing. One time we are surrounded by the kingdoms of the world and the glory of them, and the lure and temptation, and another time we are treading the world's back stairs and trying not to see the things we meet. Then there are a few quiet, garden places, where we can feel things grow and watch children at their play, and simple folk loving one another, and where it is not difficult to remember 'One who walked in the garden in the cool of the day.'"

Whenever unpleasant or arduous duties or moments of anxiety are the lot, the nurse should regard them as so many opportunities for developing and strengthening her self-reliance, self-control, endurance, and tact. It should be a distinct pleasure and privilege to enter a family which is distraught with fear over the illness of a loved one and to pour oil on the troubled waters, to share with the physician the work of relieving the sufferer, of restoring health, saving life, and preventing disease. If there are servants in the house, she should have sincere regard for their rights and privileges. She will not do private nursing very long before she will find that a great deal depends on her proper conduct toward these necessary individuals, and many a time has it been said by people that they dislike very much to have a nurse in the house on account of her meddling with the servants. Concerning the patient's visitors during periods of convalescence, there is the greatest opportunity for the exercise of judgment and tact. The nurse can easily make the neighbors and friends of the patient believe that she is a most intensely disagreeable individual, even if she is simply trying to carry out the doctor's orders. There are many ways of accomplishing the same end results, and here, again, she must learn by experience to so tactfully handle people who do not understand the situation at all that they will not go away feeling that their friend is in the hands of an ogress. She should take care of the belongings of the patient with which she comes in contact, as well as all the household utensils. It may be that the best is none too good for the patient, and it may be, on the other hand, that the use of the best that the house affords is inadvisable under certain circumstances. A nurse will find that people appreciate economy on her part in the use of gas, electricity, linen, bedding, etc. It may be that the patient will not require all of her time, particularly if she is waiting for an obstetrical engagement. If so, there are many ways which will suggest themselves to a nurse, if she is alert,

whereby she can so profitably occupy her time in the interests of the family as to make them feel that she is not entirely an ill-afforded luxury. A little sewing, a little care of the children, saving the hard-working mother or servants a few steps, will in the long run do her no harm, and give her and the profession which she represents a much better standing in the community.

If one is feeling out of sorts, keep quiet, but never look sullen. Wit and humor should be kept well in hand and of the kind that never hurts. The nurse should particularly avoid slang expressions. Constantly refined should she be in all manner of conversation. Good breeding is probably a home product, but may be unquestionably acquired. Some of the most apparently well-bred people had very humble and almost rude beginnings in childhood, but they have constantly adopted the best which they could observe in those about them, and are now models of what might be considered well-bred persons. It is not too much to say that by her manner of meeting the patient, the family, and the patient's friends, by her methods of doing her work, by uncouth remarks, by noisy demonstrations, a nurse might very easily, with a sensitive patient, undo all that her skill had brought to the home. The touch is to be trained. Probably all nurses know that these little delicate personal traits which belong to their profession are things about which they cannot be told as to the best methods of acquiring. It is simply important for a nurse to keep them in mind, and then when she attempts to comb a patient's hair, to adjust a bandage, give a bath—in short, administer any of the hundred and one little attentions which belong to her daily practice—she will gradually begin to see that these things are done in the very best way rather than in a haphazard fashion.

In the nurse's relationship with patients and patients' families and friends, the broader and more liberal her education the less likely will she be to make mistakes. Hence, whenever she has opportunities to advise young people as to taking up the nursing profession, she should try to instill into their minds the necessity for a broad foundation. The education of the head cannot take the place of heart interest in the work, neither can it take the place of the technical training which the hospital affords, but it must be a valuable asset as time goes on.

When nursing a patient, a nurse should remember that her time belongs to the patient and the people who employ her. Her own social calls are to be put far on one side. It is very inadvisable to permit very much in the way of social visits on herself, neither should she forget that she may cause a great deal of annoyance by her promiscuous and frequent use of telephone privileges.

The nurse should never assume a dictatorial manner or show any disposition to unduly insist upon her rights and privileges so far as they affect her own comfort alone. When she has made an engagement, she should remember that to break such an obligation lightly or not to be punctual in meeting it is a very serious offense. At the very outset of her career she should determine that her word will always be kept, and that she will never yield to temptation to depart from this determination. When she has once put her name on the directory, thus signifying that she is ready to take charge of patients, she is bound to hold herself in readiness to respond to calls at a moment's notice. She should always, when going out, even for a short walk, leave specific directions with some reliable person as to her whereabouts and when she will return.

Unless she is seriously ill herself, one can imagine no circumstances under which a nurse would be justified in

leaving a patient until her place had been filled. If a nurse undertakes to do general nursing, it is her bounden duty, no less than that of a physician, to take whatever case may come to her. She should never allow her personal inclinations, or personal pleasure, or personal gains to prevent her from accepting a call to a sick person who needs her.

To refuse to go to the help of a sufferer because one dislikes the isolation that must necessarily be encountered with a contagious disease, and from which one might for a time be shut out from the rest of the world and from meeting one's friends, does not enter the mind of the true nurse. In public places, like hotels, it is for many reasons inadvisable that a nurse should wear a uniform in the dining room and about the corridors. By so doing she not only makes herself unduly conspicuous, and may be subject to the embarrassment of being rudely stared at, but also causes unnecessary alarm among the other guests.

The establishment of a scale of charges which would be suitable to every case presents many difficulties, since so many different circumstances have to be considered. There are relatively few families able to expend large sums for nursing. At the same time, in the case of those who can afford it, work which requires skill and long training, and demands a great deal of mental and physical strain, calls for a good compensation. It is a good rule, however, no matter what the rate of remuneration agreed on, for the nurse to see that her services are suited to the exigencies of the case, and not rated by what the patient is able to pay. Her vigilance and her energy should know no limitations other than those of her strength and ability.

Let the nurse remember in her dealings with society as a whole, and particularly that part of it with which she comes in direct contact, that a part, and no small part either, of her duties should be educational. She is to teach, both by precept and by example, those with whom she associates how to live. She should be the living example of what is best in hygiene, in cheerfulness, in character, and in devotion to highest ideals. Who can better take up the teaching of the sex problem among the children and young girls with whom they come in contact than nurses? Or along these lines teach the great lesson of prophylaxis and preventive hygiene? There is a great deal said about this just now, and I advise nurses to make themselves competent to do it whenever the opportunity offers.

We may, if we choose, make well-directed efforts to influence some person or persons, but, whether we make any effort or not, we cannot get away from the fact that we are always influencing somebody, as well as being influenced; so, whatever we say or do or think, we must remember it is being reflected upon some one else, either those of our own profession or those in any department of life with whom we come in contact. Hence the importance of the highest ideals, and from these ideals, as sources of strength, nurses will carry out into the world that which the world has a right to expect of women of this noble and sacred calling.

From the very starting out, the nurse should plan to live economically, but comfortably. She should never go beyond her income; never go in debt; never borrow, and always try to save a little. When she saves, let her not make the mistake of speculation or be tempted by high rates of interest into schemes of which the world is full. Many persons in middle life who have earned good salaries in their professions or vocations have saved very little for the reason that they have been tempted to put their money into unsafe investments. There are always good savings

banks available, and the practice of saving a definite sum each month is a good one. Some may be fortunate enough to have friends who are reliable advisers for the deposit of savings, but we should be extremely careful whom we trust. Many well-meaning friends will give very bad advice concerning the use of money. One of the very best forms of saving for most people, particularly if they have persons in any way dependent on them, is a life insurance policy in some good company. If one does not at first feel equal to taking out a policy and paying the full premium, most companies issue now what is known as a "term" policy, which is a low-priced policy with privilege, after five or ten years, as the case may be, of changing it over without reexamination to any sort of a policy one may choose. This may not strictly pertain to the topic of this paper, but I believe it is practical, good sense.

We understand from reliable sources that there is really a little anxiety on the part of those who have the training of nurses in hand, because the flower of the profession seem to be leaving private duty for public health work, such as district nursing, tuberculosis, social service and all its branches. One can understand how this department of work is exceedingly attractive to nurses. It seems as though there was much more to be accomplished along this line because there seems to be the greatest need. The physician often feels that a large part of his work is not needed. A great many of the visits he makes might just as well be omitted so far as actual benefit is concerned, except in so far as it relieves people's minds, but in these other departments, where we have the poor and the needy to deal with, one can really see every day that one's work tells. A nurse can feel that if she does not do it, nobody else will, and, therefore, that it will not be done. However attractive this field may be, she should not forget that great middle class, who need her ministrations, and try to hold herself in readiness for service wherever the call may seem to come from.

If, as has been said, there are three times as many hospitals in this country as there were ten years ago, and they keep on in that ratio, we shall ere very many years find that nearly all the illness is taken care of in the hospital. This must be so if we are unable to get nurses for private duty and if the hospital goes on meeting more completely the needs of the public, as perhaps it is quite likely to do. It may prove to work out as we see in domestic life. A couple of generations ago almost everything was done in the home. All the clothing was made there, certainly all the food was prepared there, and now all that sort of thing has been relegated to the tailor, the shoemaker, the department store, and some of it, we are sorry to say, to the baker and sausage maker.

After all, work is perhaps the greatest blessing conferred on humanity. Dr. William B. Mayo, when asked where he and his brother got their recreation, once said, "Oh, well! Charlie has a farm down here and goes down sometimes week-ends, and I used to play tennis a little." When asked if he thought that was enough, he said, "Well, did you ever see anybody yet that died of hard work? Well, you never did! The next time you see a man who is dying from hard work, ask him whether it is work or worry. I believe that a man who loves his work and does it well will live longer than everybody else." However, this does not mean that we should neglect recreation. A nurse should cultivate a taste for the best reading, and, if she is to be a successful nurse, it would be to her advantage to cultivate the art of reading aloud, and this is by no means to be lightly considered. Florence Nightingale said she found "no use for angels without hands." If a nurse would have the truest and highest success in her

work, she must have, either inborn or by cultivation, that reverence for her work and everything connected with it of which it has been said, "It is deeply rooted in the heart of humanity; you cannot root it out; civilization, science, progress, naturally change its direction. They do not weaken its force." Carlyle said, "The only happiness a brave man ever troubled himself with asking much about was happiness enough to get his work done; it is, after all, the one unhappiness of a man that he cannot work." To be only enthusiastic is of little account.

A nurse should cultivate also the art of conversation, and this doesn't mean talking shop, but there are times when, if she can engage in the conversation at the family table or with her convalescent patient, she will render herself far more attractive and increase her efficiency. One young woman who believed herself to be very awkward as a talker always prepared herself on some topic before she went out into company, and on that topic she skillfully from time to time directed the conversation; and, as time went on, instead of being embarrassed and awkward among her associates, she became at ease and helped put others in the same condition.

A nurse should be careful about the employment of her leisure time. Good books and good magazines are always within reach. Birds, in proper season, will be found most interesting objects of study and conversation. A nervous patient may be interested in this way to a greater extent than would seem possible.

And where shall we look for the inspiring thought, for the mental toning up? The nurse cannot readily get often to the best libraries and art galleries, or hear the best music, and yet she needs to be led to higher things. Always she must be giving of her mind and heart as well as hand. Therefore let her realize that the music of the birds, the trees, and the whole out-of-doors is the wonderful music of the world; that the sunset and the ever-changing lights on the hills are more beautiful than any painted picture. Go out of doors every day, and look for something worth seeing. All have not the trained eye of the botanist and the ear of the bird-lover. To walk in the open is good for mind and body, but, if one is to realize on the time thus spent, there must be joy in it. Good reading, long walks, the cultivation of happy friendships, all lead to true culture, which always makes the man or woman a more desirable and useful member of society.

Nursing is a profession in which things move rapidly. The surgical and medical treatment of a year or two ago may have become obsolete today. If a nurse would grow and develop, and keep abreast with the progress of her day and generation, she must occasionally get out into other fields and see what other people are doing. Hence she should visit other hospitals; she should take care that nursing associations are attended; write papers, and give others the benefit of her experience; then, as often as she feels she can possibly afford the time, she should do some post-graduate work. Opportunities for that are being opened up in all of our large hospitals. She can take a most interesting season in a floating hospital; go west to places like Chicago, or Rochester, with the Mayos, and acquire and bring home with her new enthusiasm and new ideas which will make her work much easier and much more interesting. Take some good journal of nursing, read it, and now and then offer a contribution; even if it is rejected, it will have done her good to write it, and, if she keeps on trying, some day she will see her name in print, and be conscious of having written something that is worth while.

There are always times in the life of a young man or woman when he or she needs an anchor. Whatever one's

ideas of a religious life may be, whatever one's creed, or early associations, one cannot afford to neglect the culture of the heart as well as of the body and mind, so some church affiliation is most desirable, and, as often as is consistent with her duties to her patient and to herself, the nurse should attend some form of religious service. Attending church service is often very difficult, indeed. It is a good plan to go to church if one can, but, if that is impossible, she should become identified with some church, become a part of its organization, and contribute a little regularly of her means, for there is no question but that the church is the greatest organization of modern life for the development of the human race. We may try to imagine ourselves in a country where no church influence has ever reached, and we shall find that we would not care to stay there very long, no matter how much there has been of culture, education, and refinement—that can never come unless the influence of Christianity has preceded it. But whether a nurse goes to church or not, or whatever her relationship to it, she should not forget to sum up at night, "What thou hast done by day, and in the morning what thou hast to do; if thy soul with thy watch, that, too, be down, then wind up both; since we shall be most surely judged, make thy accounts agree."

Nursing is really one of the broadest professions. There is almost no phase of human nature with which a nurse may not be called in contact; her sympathies and her understanding of life in the broadest sense must be equal to many occasions if she would fulfill all the requirements and possibilities which are before her; so in the care of her body, of her mind, and of her heart she must always be alert, watchful, charitable, and unselfish. Then, as Florence Nightingale said, she will fulfill to a great degree that best definition of a nurse which can be found, as always, in Shakespeare—

"So kind, so duteous, diligent,
So tender over his occasions, true,
So neat, so nurse-like."

"Culture Courses" in Training Schools for Nurses.

BY EDITH KATHLEEN JONES,
Librarian at McLean Hospital, Waverley, Mass.

Ever "the old order changeth, giving place to new." If Sairey Gamp has disappeared completely below the nursing horizon, no less certainly is there rising a new ideal for the profession, a nurse who shall be not only the right hand of the physician and the surgeon and the mainstay of the disordered household, but also a congenial companion for the patient. In convalescent and mental cases, especially, the successful nurse is one who can arouse interest and attention and induce the patient to enter again into normal relations with the world.

That convalescent and mental nursing require more tact and sympathy and patience than any other sort, no one knows better than the nurse; but of the fact that often the whole long medical battle is finally won or lost through the personality of the nurse during this trying time the physician is despairingly aware. While the doctors can get plenty of nurses efficient in an emergency, capable and deft in the more mechanical aspects of their profession, they complain that it is very difficult to secure attendants with the education and resources which would render them companionable and congenial to their more highly educated and cultivated patients. Tact, sympathy, skill, and patience—these qualities are indispensable; but if to them a nurse can add a knowledge of books, an appreciation of pictures, an interest in current events, she will have at her command resources which will give her

tremendous advantages in the way of entertainment and companionship; and, incidentally, she will come pretty near to being the perfect woman, whose price, according to Solomon, is above rubies.

Since the demand is for this ideal, what are the training schools to do toward supplying such nurses? In the general hospitals there has been much serious discussion of the subject, and two plans have been proposed: one, that a higher grade of education be required for entrance into the training schools; the other, that these schools add to their curriculum lectures in current events, literature, and general culture. The first plan would shut out, from both general and mental hospitals, many of our best nurses—girls who are intelligent and ambitious and eager to learn, but who have had few advantages—and it is impracticable, for the present at least, because the supply would not equal the demand. As a rule, college educated men and women do not take up nursing as a profession. There remains, then, the second scheme, that of introducing so-called "culture courses" into the training schools.

In a way, this is not a new idea. For years past more or less tentative efforts have been made in many hospitals to give their pupil nurses lectures on current events and topics of the day, but in few, if any, cases have these lectures been such an unqualified success that they have been included permanently in their curriculum. Perhaps one reason for their failure is the fact that they were usually merely desultory lectures, and not a part of the required course, for unless one has an inborn love of study, or his interest is very thoroughly aroused, he is not apt to do any more studying than is obligatory. Another cause for the nonsuccess of these lectures may be the lack of teachers within the hospital to keep the students interested, and the absence of an adequate library. Teachers may be imported—at a cost; books may be borrowed from the nearest public library, but at a certain inconvenience and much responsibility for someone, and few hospitals care to surmount these obstacles.

Taking into consideration these attempts by other training schools, when McLean Hospital contemplated giving some such courses to its pupil nurses, it counted as its greatest asset a well-selected library of more than seven thousand volumes. It had always been a matter of regret that the nurses did not make better use of the material at hand, and for ten years it had been the dream of the librarian that "somewhere, somehow, somewhen," time should be found to give instruction to the nurses in books and reading, with the view of securing to a greater extent their cooperation in the efforts of the library to get books to the patients. In the fall of 1913 it was decided to try something of the sort as an experiment, and, if it seemed successful and was appreciated by the nurses, to add it permanently to the curriculum.

As a beginning, six lectures on the development of the English novel were given in October to the women of the senior class. They were made compulsory to the women, but, because it was not thought the men would care for them and it was difficult to spare them from the wards, the men were not at first included. Although an experiment, and given by one who had had no previous experience in teaching, yet, if success is measured by awakened enthusiasm for books worth while, eagerness to do the required work, and, upon the whole, fairly satisfactory results in the examinations, this course was a success, and certainly it was appreciated. So many graduate nurses still in the hospital service and men of the senior class expressed their regret that they were unable to attend the afternoon lectures, that at their request the course was repeated in evening classes, at which attendance was

entirely voluntary. It means an eagerness to seize opportunity when men and women who have been hard at work all day on the wards are not only willing, but desirous, to give up an hour of freedom after 8 o'clock at night to attend lectures which are not compulsory.

At the end of the course the nurses, like Oliver, demanded more. As the library was particularly rich in its fine arts department, this subject was chosen for a second course, given in the spring term to the entire senior class. This, too, was fully appreciated by most of the members, and with few exceptions they did remarkably good work; in fact, the hospital felt that both courses were enough of a success to warrant giving them another year.

It is no part of the plan of this paper to give a synopsis of these two subjects as taught at McLean Hospital, or to go into details, except as they may serve as suggestions to other hospitals planning something of the sort. The courses were made compulsory because it was felt it might not be possible to hold the attention and interest of the students in any other way, once the novelty had worn off, and examinations were given because they tend to fix a subject in the mind. There was no attempt at a complete course in English literature because of the shortness of the time at the disposal of the class, but, as fiction represents by far the greatest amount of reading matter of the present day, a very brief summary of the English novel was given, from the old ballads and romances to the very latest "best seller." The required reading consisted of a few of the great books—at least one of Jane Austen, Scott, Dickens, George Eliot; either "Vanity Fair" or "Henry Esmond," "Westward Ho!," "Huckleberry Finn" or "Tom Sawyer," "The Scarlet Letter" or "The Marble Faun," "Treasure Island" or "Kidnapped;" several of Kipling's short stories; a choice of several other novels. The idea was not only to show how the novel grew and changed from century to century, but also to introduce the class to the very best writers, so that they might have an ideal by which to measure the stories of the present day. They were asked to write a short paper on their favorite author or book, and some of these essays were excellent in point of view and analysis.

The course in the history of art presented more difficulties and took much more time. Roughly speaking, it was based on Reinach's "Apollo," which many of the class purchased; but, realizing that most of the ground covered would be entirely new to many of the students, and that they would have little time for outside reading, the lectures were very carefully prepared to give all the information possible in the class; the outline of each lecture, as well as new names and terms, were written on the blackboard, and rough sketches were drawn to illustrate some points. But, most important of all, large photographs and (when it was possible to get good ones) colored pictures were displayed on the platform and passed among the students. Pictures are indispensable in a course of this sort, and, if the hospital does not own them, the public libraries and art museums will be found willing to lend their collections, or, indeed, to help in any way possible. While on the subject of pictures, it may be said in passing that the very best colored reproductions known to the writer are published in "Die Galerien Europas,"¹ and separate pictures may be purchased at 25 cents each. To those who have never seen any paintings by the great masters, a photograph conveys a very inadequate idea, and cheap colored prints are worse than nothing; but in these pictures the individual tones and colors are wonderfully

well reproduced, and a good idea of the peculiar style of each artist can be obtained.

Speaking from one year's experience, it would seem worth while to devote one lecture to Greek and Roman mythology, and it certainly adds greatly to the intelligence of the students if a brief outline is given of the physical geography, history, and characteristics of each nation and their effect on their art. Since this course is meant for "general culture" rather than an exhaustive study of art, the broader and more fundamental one can make it the more the nurses will get out of it.

In a pioneer work like this, with an inexperienced teacher, it was inevitable that there should be mistakes. Perhaps the greatest of these lay in trying to give too many names and facts, too much detail, and in taking for granted more previous knowledge than many of the students had. Another year only the most important items will be given, but these will be hammered home. More frequent reviews and examinations will be given. The art course will immediately follow the literature and be extended throughout the school year, making it much less hurried.

The greatest difficulty encountered was in finding a point of contact from which to start, for, while some members of the class were well educated and had read widely and intelligently, many of them had had few opportunities. When Dickens is only a name and Jane Austen not even that; when Florence is merely a dot on the map and Rome a city in Italy where vague things once happened; when Homer is thought to have written the Arthurian romances, and Mars and Eros, Zeus, Venus and Hermes, whether under Greek or Roman names, mean absolutely nothing; when Raphael and Rembrandt are known simply as "artists" and convey no distinctive impression—where is one to begin? Yet, if the outlook is at first a little appalling, so much the greater is the need for a start. With a good library at hand, a judicious selection of books can be made and put for two or three months in the nurses' sitting rooms, where they may be taken up at odd moments, read aloud and talked over. In this way something of history and mythology may be imbibed almost without knowing it, and one may become acquainted at least with the great places and writers and artists before the courses are begun. During the course the necessary books might well be reserved in some place accessible to the entire class, so that no one person can monopolize them. It might again be emphasized that if a hospital has no library of its own, the public libraries will be glad to lend their books.

It is yet too early to speak of results from this experiment at McLean Hospital, but it is true that the nurses themselves appreciated what was being done for them and cooperated heartily. Over and over again they voiced their feeling that a new world of books and pictures had been opened to them, and that, although they were unable to remember all the details, they had acquired a certain foundation on which to build in the future. At least they became acquainted with the great names in literature and art, and knew a little of what they stood for. Moreover, interested themselves in what was to many of them a new-found world, they took their notebooks to the wards, talked over the lectures with the patients, got them interested, helped and were helped in turn by them toward a wider outlook and a larger range of interest. Nurses and patients alike went over the lectures, read the books, criticised, compared impressions, had more topics in common. More than once certain patients took exception to opinions expressed by the lecturer and quoted by a nurse, and called the former to account. This interest

¹Die Galerien Europas; Leipzig, Seemann. The volumes are published by subscription, but they, or separate pictures, may be secured through any foreign bookseller.

was good for the patient and not at all bad for the lecturer. Although it was a little difficult to arrange matters so that the whole senior class could be spared from the wards for one hour a week in addition to the time needed for the other classes, yet, from this one year's experience, it would appear that the nurses give more to the patients in awakened interest and stimulus than they take from the wards in time. If such courses make them better companions, and therefore more efficient nurses, it would seem to be for the interest of the hospital, especially for the hospital for mental diseases, to give them at least one "culture course" with their more technical studies; while there is no doubt that better education will make them more valuable in private nursing, whether in mental or convalescent cases.

"In what precise respect, it may be asked, did Florence Nightingale 'found' modern nursing?

"Miss Nightingale was the founder of modern nursing because she made public opinion perceive, and act upon the perception, that nursing was an art, and must be raised to the status of a trained profession.

"The means by which Miss Nightingale achieved this great work were three—she brought to bear upon it the force, successively, of her example, her precept, and her practice.

"Thus on a modest scale, but with a vast amount of forethought, was launched the scheme which was destined to found the modern art and practice of nursing.

"The essential principles of the scheme were stated by Miss Nightingale to be two—(1) that nurses should have their technical training in hospitals specially organized for the purpose; (2) that they should live in a home fit to form their moral life and discipline. The scheme was carefully adjusted to these two ends."—Cook's Life of Florence Nightingale.

Feeling the need of a low-priced hospital to which their patients might be removed when desirable, twenty-two physicians practicing in the south end of Brooklyn, N. Y., have incorporated a nonstock company and established such a hospital at 704 Fourth avenue, the center of a congested district. The cost of a bed ranges from seven to twenty dollars a week, nurse and medicine included. At present there are accommodations for 30 patients at a time, and more room is being provided. The institution is known as the Harbor Hospital. Dr. William H. Madern is president of the medical staff, and Miss May Kelington is the superintendent.

Miss Mabel Van Anker, for the last three years superintendent of Culver Union Hospital, Crawfordsville, Ind., has resigned and will take up a new line of work, the character of which has not been learned. The local press speaks highly of Miss Van Anker's services to the Culver Hospital. The new superintendent is Miss Helen Biggert, who had charge of the institution for a time about five years ago. Miss Biggert has had experience in Bellevue Hospital, New York; Cook County Hospital, Chicago, and served as a member of the faculty of the Illinois Training School for Nurses at Chicago. She comes to the Culver Union Hospital recommended as a very efficient woman.

The Hazelwood Sanatorium at Louisville, Ky., suspended operation August 1, and will be closed indefinitely. The sanatorium was established in 1907 as a charitable institution, which should not be conducted for profit. It is understood that the causes for the suspension are the lack of adequate equipment for the new building, which has replaced that destroyed by fire last year, and a continuous deficit in the operating expenses. Financial assistance was granted by the state for a time on a basis calculated to cover the deficit in operation, but, as the Legislature of 1912 failed to make any such further appropriation, the institution attempted to meet the expenses.

QUERIES and ANSWERS

Sewage Disposal for Sanatorium.

To the Editor of THE MODERN HOSPITAL:

For the Hampshire County Tubercular Sanatorium (Haydenville, Mass.) we are contemplating installation of a sewage disposal system. Can you give me any information regarding the efficiency of the Ashley house sewage disposal system? As we wish to commence work on a plant soon, I would appreciate a reply as soon as convenient for you.

CHAS. E. PERRY, M. D., Superintendent.

The underlying principle in the Ashley sewage destruction system seems to settle the question; the whole thing is based on the biological principle of the bacterial splitting up of proteid products. The Ashley system contemplates the introduction of air into the liquefied sewage, which has the chemical effect of transforming harmful nitrites into harmless nitrates. The principle has long been a standard principle of sewage disposition, but the advantage of the Ashley system is the ease of introduction of the elements of oxidation. The old German principle contemplated the suction of air from above ground into the tank, which increased the process of nitrification in proportion to the amount of air introduced. The Ashley system is an improvement on this.

I think you can't go wrong in adopting this system, as it seems to have been thoroughly thought out by boards of health and scientific bodies everywhere.

JOHN A. HORNSEY.

Value of Fireless Cooker.

To the Editor of THE MODERN HOSPITAL:

We have been thinking for a long time about adding some fireless cookers to our kitchen equipment. We know that these devices are almost unanimously accepted as valuable additions to a kitchen equipment, but we would like to know just exactly what they do to food.

T. W. B., Ohio.

Fireless cookers are nothing more than a modified form of thermos bottle—that is, they act on that principle—and their relative value depends on the character of insulation between the article that is cooking and the outside temperature. The only thing that the fireless cooker does is to maintain the heat in the article to which it had been brought before it was transferred from the fire into the cooker. For instance, if it is beans that you are cooking and they are boiling in water, the temperature will be 212°. Now, if you remove them from the fire and put them into a fireless cooker that is well insulated, that temperature of 212°, or approximately that, will be maintained for hours, and the cooking process will go right along as though the article were still on the fire. The August number of THE MODERN HOSPITAL, page 84, describes a fireless cooker made out of a flour box and newspapers. I knew of an excellent fireless cooker some years ago that was made of one large box about 2x4 feet and about 2 feet high, with a metal box inside of it about 1 foot wide, 10 inches high, 18 inches long. This metal

box had a lid on it. In between these two boxes was packed a great lot of prairie hay; it was a most efficient cooker. I think for a hospital you had better go on the market and buy one of the cookers already made. They will last you indefinitely, are not expensive, and are so made that your article can be kept perfectly clean all the time.

JOHN A. HORNSBY.

What is Sterile Milk?

To the Editor of THE MODERN HOSPITAL:

We are trying to organize our station for preparing formula milks for sick children, and the question of sterilization versus pasteurization has come up. Will you kindly tell us just what the difference is?

CHILDREN'S HOSPITAL.

Pasteurization destroys most of the microorganisms in milk, and is supposed to destroy all those that are harmful, but it does so at the lowest temperature that will perform the work. Generally about 140° F. for twenty minutes is the temperature and time used. Nearly always there are some microorganisms, more especially the lactic acid bacteria, left alive at the end of pasteurization. The physiological character of the milk—that is, the albumin and casein—is not changed in pasteurization.

In sterilization, on the other hand, every live organism—the bacteria, cocci, yeasts, fungoids, and parasites—are all destroyed; the physiological character of the milk is changed by coagulation of the albumins and the fixing of the caseins. Milk in this form, it may be readily understood, is not desirable as a food for children sick with gastrointestinal diseases, and, when sterile milk is used for feeding, the coagulated albumins and the fixed caseins are usually broken up by the employment of some such agent as a rennet ferment. The milk in the presence of a small quantity of this rennet ferment is kept at a temperature of say 120° for about an hour. At the end of this time the milk has undergone a splitting-up process that makes it almost a predigested food, and oftentimes sick children that can take no other food whatever will thrive on these formula mixtures for several days while their stomachs are resting and recovering from the inflammatory conditions.

This question of sterilization and pasteurization is not a settled problem by any means. Some of the ablest physiological minds in the world are still perplexed about it, and the physiologists are not agreed. I think the most enthusiastic advocates of pasteurized milk claim only that it is better than bad raw milk.

JOHN A. HORNSBY.

Green Pus Infection.

To the Editor of THE MODERN HOSPITAL:

We have been having some—what the doctors call—"green pus infections" in our hospital, and the doctors say it is our own fault. Is this true, and, if so, how can we help it?

SUPERINTENDENT, Southern Hospital.

I am afraid your doctors are pretty nearly right, and that it is your own fault that you have green pus infections, but your doctors ought to tell you what this infection means and how to stop it.

Green pus infection comes from the organism known as pyocyanus. It is a nonspore-forming organism very easily destroyed, not at all virulent in its activities, and very rarely does more harm than to delay the healing processes for a few days. It is an aerobic organism requiring oxygen, or air, for its growth and multiplication, and consequently it is usually a surface or stitch infection. If you will have your pathologist give you a clean slide and you pass this through the atmosphere of your children's ward, the chances are you will pick up a lot of

pyocyanus bacteria, but, if you bring the slide in contact with the dust in the room, either from the wall or floor or ceiling, you will certainly get pyocyanus. This is about the only organism that regular formaldehyd-permanganate of potash fumigation will destroy. The thing to do is to get your children out of the ward, and, if there is more than one ward, take one at a time; clean all the furniture thoroughly with hot water and soap; clean the floors and walls and ceiling in the same way; float your floor, if it is a wooden one with cracks in it, with a 5% carbolic acid solution. Soak your blankets in a disinfecting solution and send them to the laundry. Sterilize your pillows thoroughly and also your mattresses. Then fumigate with formaldehyd-permanganate. After you have done this, you can bring children from another ward into this clean ward, but be sure that you do it under a sterile technic. The best way to perform this is to have one nurse bathe each child, and after bathing it wrap it up in a thoroughly sterile sheet. Have her carry the child to the door of the ward and hand it to a clean nurse outside, who will receive it in another sterile sheet and take it to the clean ward, where clean bed clothing will be put on.

You need be only surgically clean to get rid of your pyocyanus, and I would think I was thoroughly disgraced if I had pyocyanus infection develop in a ward of which I had charge—I mean over any considerable length of time. I would have to have one or two cases before I knew the infection was present.

JOHN A. HORNSBY.

LETTERS TO THE EDITOR

Better Fire Protection.

To the Editor of THE MODERN HOSPITAL:

In your editorial headed "Fire! Fire!! Fire!!!" in the August number of your journal you ask this question, "How many hospitals have bettered their fire protection since THE MODERN HOSPITAL urged the matter for attention sixty days ago? The Cleveland City Hospital has. We began to give the matter careful attention about a year ago, and were spurred on to greater efforts by THE MODERN HOSPITAL. Among other things we have done are the following:

- 1, run a new pipe line from the center of the hospital grounds, with three hydrants, and connected it with the city fire lines; 2, purchased 2,000 feet of new hose, which has been installed in the different buildings and is now in good working order; 3, have put our fire pump in working order, and have a pressure of 100 pounds; 4, thirty-six new three-gallon fire extinguishers have been placed in the different buildings; 5, have improved our fire alarm system; 6, have removed iron bars from windows and have changed doors to swing with the traffic; 7, have repaired our fire escapes; 8, are now connecting one of our hospital buildings to a fire line with our pump; 9, are issuing simple instructions to all employees to be followed in case of fire, and we are not through yet.

We intend to have the best possible fire protection consistent with the conditions under which we operate. Soon we will ask THE MODERN HOSPITAL to suggest some more things we could do to safeguard our patients.

HOWELL WIGHT,
Superintendent Cleveland City Hospital.

Dr. Arthur L. Nelson, steward of the Louisville (Ky.) City Hospital for the last five years, has been appointed assistant superintendent to succeed Dr. E. E. Owen, resigned.

REVIEWS OF NEW BOOKS

A History of Laryngology and Rhinology. Jonathan Wright, M. D., director of the Department of Laboratories, New York Post-Graduate Medical School and Hospital. Second revised edition. 8vo, cloth. Price, \$4. Pp. 357, illustrated. Lea & Febiger, Philadelphia and New York, 1914.

As the publishers announce in their foreword, this book will appeal to the physician for its literary and historic value rather than for its practical usefulness in every-day professional life. The physician interested in the development of the diagnosis and treatment of diseases of the throat and nose should derive an immense amount of pleasure from following the step-by-step progress that has been made in these diseases. The writer takes us back to the time of Hippocrates, Hindu medicine, the medicine of the Talmud. He quotes Horace and Homer, Herophilus, Plutarch, and Celsus, takes us through the Arabian Renaissance; choice bits in the way of prescriptions from the school of Salerno are quoted, as, for instance, this as the cause of hoarseness:

"Oil and raw apples, nuts and eels, 'tis said,
With such catarrhs as settle in the head,
And leading to a long intemperate course
Of life, will render any person hoarse."

And this as the cure:

"Fast well and watch. Eat hot your daily fare.
Work some and breathe a warm and humid air;
Of drink be spare; your breath at times suspend,
These things observe if you your cold would end."

The writer by easy stages brings us down to and discusses voice production, laryngoscopy, and the difficulties of technic. He discusses the effect of roentgenology in the diagnosis of nose and throat diseases, the effect surgery has had on these sciences, and takes up, one by one, the various diseases of the nose and throat, with a brief discussion of each.

Life and Letters of Nathan Smith, M. B., M. D. Emily A. Smith, with an introduction by William H. Welch, M. D., LL. D. Yale University Press, New Haven, 1914. Price, \$3.

This attractive volume of less than 400 pages has been published in commemoration of the centennial of the medical department of Yale, and constitutes a valuable addition to the history of medicine at the commencement of the last century. Nathan Smith was one of the mighty souls bred in America by pioneer conditions, and nurtured in the hard school of poverty—men like Beaumont, Drake, McDowell, Dudley, Mettauer, Baldwin and others who became eminent teachers, surgeons and practitioners by force of character and tenacity of purpose. He was born in New Hampshire in 1762 and had little incentive to a scholarly life beyond that which comes from within, and yet he became an eminent physician, surgeon and teacher. He originated the modern treatment of typhoid fever; discovered the true nature of osteomyelitis with its attendant necrosis, practiced the reduction of dislocations by manipulation, couched for cataract, and practiced general medicine and surgery; and at the same time filled almost every chair in the medical schools which he founded at Dartmouth, Bowdoin and Yale Colleges, and thus by his vigorous intellect and unselfish devotion gave medical education in New England a mighty impetus. Through his efforts and those of his son medical colleges were established in Vermont, Philadelphia and Baltimore.

The volume is attractively printed, and well illustrated by reproductions of portraits and photographs and facsimiles of old documents. It is an important contribution to the history of medicine in the United States, and deserves to be read by all interested in its pioneers.

HUGE PROBLEM IN CARE OF EPILEPTICS.

More Than 200,000 Afflicted Need Institutional Protection
—Good Beginning Already Made by Devoted Workers
—Cooperation of All Agencies Urged—What the Society Is Doing.

BY OUR NEW YORK CORRESPONDENT.

The health problems confronting all engaged in the great work of alleviation and improvement of existing conditions are prone to become circumscribed to the immediate and pressing needs of today. Each and all, in their own sphere of activities, have distinctly separate, urgent problems that seemingly demand all their energies. We cannot, in this day of specialization, follow in detail the work of the great leaders in their several sociological fields; we should, however, be cognizant of the general trend of all organized efforts toward the betterment of not only this but future generations.

Epileptics in the United States today, according to conservative estimates of authorities on this dread disease, number 200,000, one to every 450 of the population. This malady "we have had with us" from the "earliest dawn of history." It may be of interest to briefly note the movements that have gradually led to the colonization plan, so admirably worked out at Sonyea, N. Y., designated as the "Craig Colony."

Germany must be given credit for being the first in the field for organized care of epileptics. As early as 1773 the bishop of Wurzburg established a home for the "very poor" afflicted with "falling sickness." This home was under the jurisdiction of Julius Hospital, and the good work was continued by the bishop's successor at his own expense. We find a few of such isolated efforts in behalf of epileptics during the eighteenth century, but the "asylum care" did not develop until near the middle of the nineteenth. About 1838 Dr. Edwin Seguin, of Paris, began his great philanthropic work for the improvement of the idiot class, and numerous asylums were provided, not only for this class, but also for epileptics.

A Protestant clergyman, Pastor John Bost, through his own love of outdoor life in the country and his firm belief in its efficacy in disease, added a cottage for epileptic boys to his colony for various classes of sufferers at La Force, France, in 1862. From this philanthropic work of Pastor Bost has gradually developed our present admirable "cottage and colony plan" for the care of these patients.

Germany is today in advance of all other countries in her work for the care of this class of unfortunates, yet even her provisions are far from adequate. The work is still being done principally by private organizations, the Government taking a hand only in the establishment of institutions in Saxony and Prussia.

In the United States we have been and still are reprehensibly backward in coming to the realization that separate institutions are essential in providing for the proper care of epileptics. Ohio was our first state to enter this new field, the momentous step having been taken in 1891 after a long, courageous, unwearied fight of over twenty years by the Ohio State Board of Charities. The next state to take action was New York, followed by Massachusetts, New Jersey, Pennsylvania, Indiana, Missouri, Texas, Connecticut, and Kansas.

The movement became certain of assured advancement by the organization, on May 24, 1898, of "The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics." The want of accumulated information regarding systems of care and treatment of

epileptics in the United States and abroad led to the publication in 1899 of "Care and Treatment of Epileptics," by Dr. William Pryor Letchworth, then president of the association, and this exhaustive work has been of the greatest value to them in their efforts "to promote the general welfare of sufferers from epilepsy—to stimulate the study of the causes and the methods of care of this disease, to assist the various states of America in establishing a proper system of care for epileptics, and to advocate the care of epileptics in institutions designed to meet their special needs." The society has earnestly endeavored to secure cooperation of scientific and benevolent forces by making eligible to membership all persons interested in general sociological questions. Officers, executive committee, and members of the association have appealed to state boards of charities, medical societies, and members of legislative bodies to cooperate in their efforts to provide better care and treatment for this class of afflicted.

BABIES OF THE FLOATING HOSPITAL.

St. John's Guild and the Helen C. Juilliard Doing Splendid "Save the Babies" Work for Greater New York— Description of a Voyage.

BY OUR NEW YORK CORRESPONDENT.

The Helen C. Juilliard, of St. John's Guild, has done valiant service for the poor babies, children, and mothers of New York City every summer since 1899. Twenty-six miles of sailing in salt air is given free to the sick children, without regard to creed, color, or nationality. These trips are made daily, except Sundays, and by making landings on the east side of Manhattan, west side of Manhattan, and in Brooklyn on alternate days, the floating hos-

pital ministers to different sections of Greater New York. This is not an excursion boat, but a hospital, and a real factor among the many agencies in New York successfully coping with the world-old problem of infant mortality.

It is a hot sultry day in July, and at 8 a. m. the Helen C. Juilliard is at the dock at West Fiftieth street. Her crew has thoroughly scrubbed and cleansed her from kitchen to lookout. A long line of mothers, with baby in arms and two or three little tots pulling at their skirts, patiently await embarkation. Slowly the line begins to move, first passing the inspection of a physician from our wide-awake health department, who weeds out suspected contagious cases. The ship's doctor, the next barrier, quickly "tickets" babies needing immediate ward treatment and those requiring modified milk. A nurse at the doctor's elbow distributes milk tickets to the sick children, and another examines every scalp before the gangplank is crossed. In a surprisingly short time the dock is cleared, the floating hospital moves, and at 8:30 the second landing is made at West Thirty-fourth street. Here and at 9:00 o'clock at West Tenth street the same inspection occurs, and precautions taken as at West Fiftieth street. The three landings made, she starts down the bay.

We shall leave the ship's doctor and ward nurse attending the most urgent patients and pass aft to the bath room. Pediculosis cases are "yellow-ticketed" before going aboard and segregated near this large room. Their hair and scalps are immediately saturated with a solution of larkspur and bandaged for the day. They are the last to receive their baths, and the stigma of the "yellow ticket" has proved a stimulant toward future cleanliness. This disagreeable task accomplished, real pleasure lights up the nurse's countenance as the babies begin gurgling in the tubs, and the youngest children enjoy their spray in the

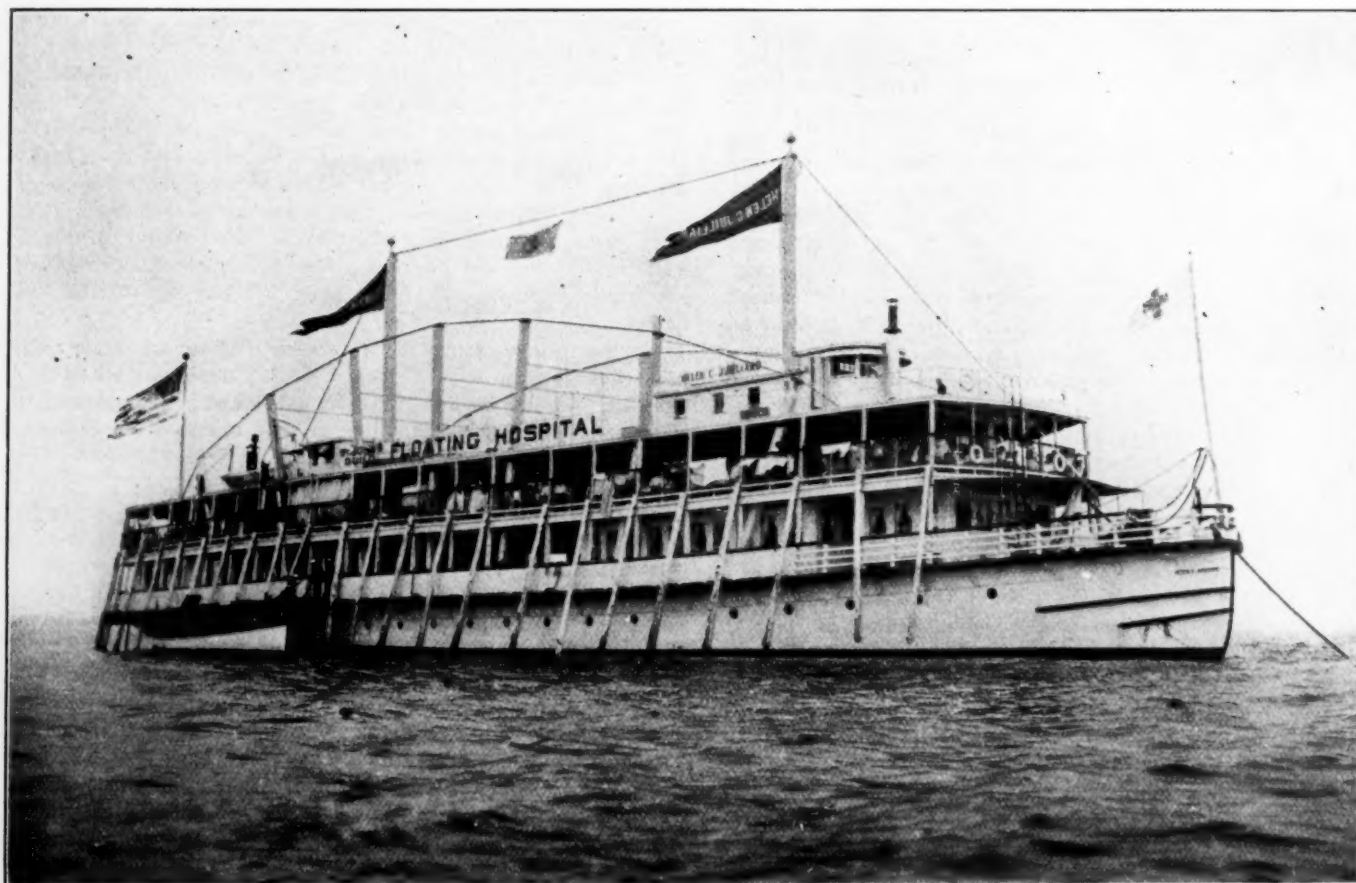


Fig. 1. Floating Hospital Helen C. Juilliard.

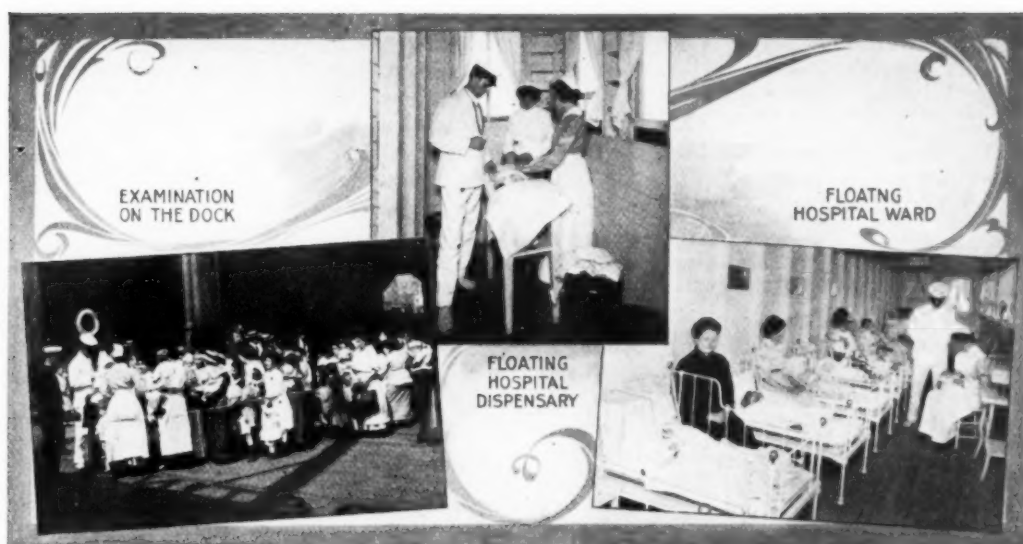


Fig. 2. Floating Hospital—Views on dock and on board.

curtained booths completely encircling the bath room. The first group finished bathing, it is time for the morning's distribution of milk. On the main deck are two stations, with nurses in charge, one for whole milk and the other the modified. Bottle-fed babies receive their proper feeding and sick children their quota of milk.

At midday a warm, nutritious meal is served, in the spacious dining room below decks, to the mothers and children not restricted to milk. While this meal is in progress, the floating hospital anchors off New Dorp, S. I., in full view of St. John's Guild's excellent Sea-Side Hospital featured in volume I, No. 3, of *THE MODERN HOSPITAL*. The guild's launch soon draws alongside and conveys the critical cases, with their mothers, to the Sea-Side Hospital for more prolonged treatment. Before the launch returns with discharged patients, the ship's doctor and his staff of nurses have been served a luncheon with the captain and other officers in their pleasant dining room on the main deck.

The afternoon is as filled with activities as the morning has been. Dispensary work is continued, the doctor referring to hospitals or milk stations cases that cannot be followed up by the five field nurses of the guild. At 3

o'clock milk is again served, and the bath room is in constant service.

Receiving rooms, large wards, operating rooms, and quarters for the doctor and nurses would add to efficiency, but the Helen C. Juilliard in her present state is rendering a service worthy of the cordial cooperation received from the Department of Health, hospitals, dispensaries, day nurseries, churches, and philanthropic organizations in touch with the poor of Greater New York.

DAY NURSERIES ARE SAVING BABIES.

One of the Prime Factors in Success is the Teaching of Mothers—Federation of Day Nurseries Doing Wonderful Work—A Hint to Hospitals.

BY OUR NEW YORK CORRESPONDENT.

It is often stated that the marvelous advance in medical science, in its broadest sense, has added ten years to the average span of life. In spite of this fact, the infant mortality shows no appreciable decline. Authorities estimate that 3,200,000 babies under 12 months die annually in countries forming the "civilized" world. No effective vital

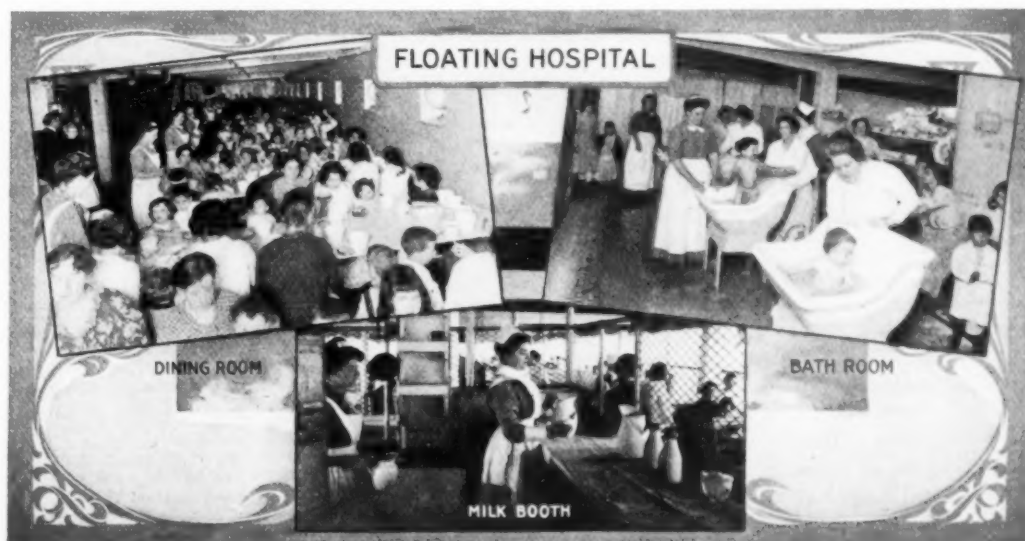


Fig. 3. Floating Hospital—Views on board.

registration laws are in operation among 55 percent of our population, but, to be conservative, at least 150 infants of every 1,000 fail to survive the first hazardous year, and double this number in some of our large manufacturing centers.

The ever-increasing complexities of our life today, with its modern social conditions, concentration in cities, and high cost of living, are gradually decreasing our annual number of births. France is not alone face to face with the problem of the total number of births being insufficient to completely offset her total number of deaths. Economic pressure and the well-known thrift of the French woman were responsible for the beginning of a system of day nurseries in Paris nearly a century ago. M. Firmin Marbeau, discovering an old French hag earning a few sous a day by looking after a number of ill-fed, wretched babies, took the first step toward the present "creche" system in France. In 1869 La Société des Creches of Paris was officially proclaimed a society of public utility, and the city began establishing a day nursery in each arrondissement.

The encroachment of industrialism on the homes throughout the world has led to the establishment of day nurseries, more or less modeled after the French system, in almost every civilized country. The Child's Hospital of New York City, opened in 1854, maintained a day nursery department for the first three years. The first day nursery of the present system in the United States was established in Philadelphia in 1863 by Miss Biddle after a personal survey of the French system. This movement, spreading to our principal cities, led to the formation, in 1898, of the National Federation of Day Nurseries.

That the day nursery, born of necessity, has played a part in helping thousands of babies survive their first twelve-month, there can be no doubt. The federation is fully awake to the fact that the greatest death rate occurs among bottle-fed infants. It is doing a good work in educating mothers to a proper appreciation of this fact. When recourse to artificial feeding is a necessity, detailed instruction is given to avoid dirty bottles and nipples, too often or too much feeding at one time, impure or spoiled milk, or food not suited to the baby's age. A dietary for infants and young children, used in the New York Babies' Hospital and the New York Polyclinic, has been distributed among the day nurseries by the federation. This leaflet contains minute instructions regarding nursing, weaning, and food after weaning, the preparation of food and amount and frequency of bottle-feeding for each month of the first twelve.

These nurseries are day homes not only for infants, but for children up to 7 or 8 years of age whose mothers are forced to earn wholly or in part a living for the family. New York today is second only to Paris in the number of her day nurseries, and, however much we may deplore industrial conditions that make them a necessity, they deserve a closer cooperation of the hospitals and the medical profession.

The trend is toward education of the mothers. Every effort is being made through cooperation with other philanthropic organizations to supply the poor mother with work and sufficient funds to remain at home with the nursing baby.

Some of their buildings are models in constructive sanitation, with roof gardens and balconies, making open-air life possible for children that have scarcely had a glimpse of the sun. Daily visits by a physician could not only prevent spread of contagion, but weed out defectives among the kindergarten children, and by early segrega-

tion make a long step toward ultimate elimination of a class that are fast undermining civilization.

The New York Health Department, aware of the gravity of the problem of vaginitis among children in public schools, hospitals, day nurseries, and other institutions, has taken measures leading to a better medical control. This advance will add greatly to efficiency of day nurseries as factors in the great field of preventive medicine.

DICKENS AND THE SICK CHILDREN.¹

After-Dinner Speech by the Author of "Little Nell" at a Children's Hospital Anniversary.

"At the anniversary festival, after the usual loyal and other toasts, the chairman, Mr. Dickens, proposed 'Prosperity to the Hospital for Sick Children,' and said:

"Ladies and Gentlemen: It is one of my rules in life not to believe a man who may happen to tell me that he feels no interest in children. I hold myself bound to this principle by all kind consideration, because I know, as we all must, that any heart which can really toughen its affections and sympathies against those dear little people must be wanting in so many humanizing experiences of innocence and tenderness as to be quite an unsafe monstrosity among men. Therefore I set the assertion down, whenever I happen to meet with it—which is sometimes, though not often—as an idle word, originating possibly in the genteel languor of the hour, and meaning about as much as that knowing social lassitude, which has used up the cardinal virtues and quite found out things in general, usually does mean. I suppose it may be taken for granted that we, who come together in the name of children and for the sake of children, acknowledge that we have an interest in them; indeed, I have observed since I sat down here that we are quite in a childlike state altogether representing an infant institution, and not even yet a grown-up company. A few years are necessary to the increase of our strength and the expansion of our figure; and then these tables, which now have a few tucks in them, will be let out, and then this hall, which now sits so easily upon us, will be too tight and small for us. Nevertheless, it is likely that even we are not without our experience now and then of spoilt children. I do not mean of our own spoilt children, because nobody's own children ever were spoilt, but I mean the disagreeable children of our particular friends. We know by experience what it is to have them down after dinner, and, across the rich perspective of a miscellaneous dessert to see, as in a black dose darkly, the family doctor looming in the distance. We know, I have no doubt we all know, what it is to assist at those little maternal anecdotes and table entertainments illustrated with imitations and descriptive dialogue which might not be inaptly called, after the manner of my friend Mr. Albert Smith, the toilsome ascent of Miss Mary and the eruption (cutaneous) of Master Alexander. We know what it is when those children won't go to bed; we know how they prop their eyelids open with their forefingers when they will sit up; how, when they become fractious, they say aloud that they don't like us, and our nose is too long, and why don't we go? And we are perfectly acquainted with those kicking bundles which are carried off at last protesting. An eminent eyewitness told me that he was one of a company of learned pundits who assembled at the house of a very distinguished philosopher of the last generation to hear him expound his stringent views concerning infant education and early mental development, and he told me that while the philosopher did this in very beautiful and lucid language, the philosopher's little boy, for his part, edified the assembled sages by dabbling up to the elbows in an apple pie which had been provided for their entertainment, having previously annointed his hair with the syrup, combed it with his fork, and brushed it with his spoon. It is probable that we also have our similar experiences sometimes of principles that are not quite practice, and that we know people claiming to be very wise and profound about nations of

¹Colonel Fielding H. Garrison, United States Army Medical Corps, in his browsings in old medical lore, recently ran across this speech by Dickens, made at Freemasons' Hall, London, February 9, 1858, on the occasion of the anniversary of the Hospital for Sick Children. It is reproduced in the *Journal of the American Association*, and is reproduced here for its human interest and for its plea for the Children's Hospital.

men who show themselves to be rather weak and shallow about units of babies.

"But, ladies and gentlemen, the spoilt children whom I have to present to you after this dinner of today are not of this class. I have glanced at these for the easier and lighter introduction of another, a very different, a far more numerous, and a far more serious class. The spoilt children whom I must show you are the spoilt children of the poor in this great city, the children who are, every year, for ever and ever irrevocably spoilt out of this breathing life of ours by tens of thousands, but who may in vast numbers be preserved if you, assisting and not contravening the ways of Providence, will help to save them. The two grim nurses, Poverty and Sickness, who bring these children before you, preside over their births, rock their wretched cradles, nail down their little coffins, pile up the earth above their graves. Of the annual deaths in this great town, their unnatural deaths form more than one-third. I shall not ask you, according to the custom as to the other class—I shall not ask you on behalf of these children to observe how good they are, how pretty they are, how clever they are, how promising they are, whose beauty they most resemble—I shall only ask you to observe how weak they are, and how like death they are! And I shall ask you, by the remembrance of everything that lies between your own infancy and that so mis-called second childhood when the child's graces are gone and nothing but its helplessness remains; I shall ask you to turn your thoughts to these spoilt children in the sacred names of Pity and Compassion.

"Some years ago, being in Scotland, I went with one of the most humane members of the humane medical profession on a morning tour among some of the worst-lodged inhabitants of the old town of Edinburgh. In the closes and wynds of that picturesque place—I am sorry to remind you what fast friends picturesqueness and typhus often are—we saw more poverty and sickness in an hour than many people would believe in a life. Our way lay from one to another of the most wretched dwellings, reeking with horrible odors; shut out from the sky, shut out from the air, mere pits and dens. In a room in one of these places where there was an empty porridge pot on a cold hearth, with a ragged woman and some ragged children crouching on the bare ground near it—where, I remember as I speak, that the very light, refracted from a high damp-stained and time-stained house-wall, came trembling in, as if the fever which had shaken everything else there had shaken even it—there lay, in an old egg-box which the mother had begged from a shop, a little feeble, wasted, wan, sick child. With his little wasted face, and his little hot, worn hands folded over his breast, and his little bright, attentive eyes, I can see him now, as I have seen him for several years, looking steadily at us. There he lay in his little frail box, which was not at all a bad emblem of the little body from which he was slowly parting—there he lay, quite quiet, quite patient, saying never a word. He seldom cried, the mother said; he seldom complained; 'he lay there, seemin' to wonder what it was a'boot.' God knows, I thought, as I stood looking at him, he had his reasons for wondering—reasons for wondering how it could possibly come to be that he lay there, left alone, feeble, and full of pain, when he ought to have been as bright and as brisk as the birds that never got near him—reasons for wondering how he came to be left there, a little decrepit old man pining to death, quite a thing of course, as if there were no crowds of healthy and happy children playing on the grass under the summer's sun within a stone's throw of him, as if there were no bright moving sea on the other side of the great hill overhanging the city; as if there were no great clouds rushing over it; as if there were no life, and movement, and vigor anywhere in the world—nothing but stoppage and decay. There he lay looking at us, saying, in his silence, more pathetically than I have ever heard anything said by any orator in my life, 'Will you please to tell me what this means, strange man? and if you can give me any good reason why I should be so soon, so far advanced on my way to Him who said that children were to come into His presence, and were not to be forbidden, but who scarcely meant, I think, that they should come by this hard road by which I am traveling; pray give that reason to me, for I seek it very earnestly and wonder about it very much'; and to my mind he has been wondering about it ever since. Many a poor child, sick and neglected, I have seen since that time in this London; many a poor sick child I have seen most affectionately and kindly tended by poor people,

in an unwholesome house and under untoward circumstances, wherein its recovery was quite impossible; but at all such times I have seen my poor little drooping friend in his egg-box, and he has always addressed his dumb speech to me, and I have always found him wondering what it meant, and why, in the name of a gracious God, such things should be!

"Now, ladies and gentlemen, such things need not be, and will not be, if this company, which is a drop of the life-blood of the great compassionate public heart, will only accept the means of rescue and prevention which it is mine to offer. Within a quarter of a mile of this place where I speak stands a courtly old house, where once, no doubt, blooming children were born, and grew up to be men and women, and married and brought their own blooming children back to patter up the old oak staircase which stood but the other day, and to wonder at the old oak carvings on the chimneypieces. In the airy wards into which the old state drawingrooms and family bedchambers of that house are now converted are such little patients that the attendant nurses look like reclaimed giantesses, and the kind medical practitioner like an amiable Christian oger. Grouped about the little low tables in the center of the rooms are such tiny convalescents that they seem to be playing at having been ill. On the dolls' beds are such diminutive creatures that each poor sufferer is supplied with its tray of toys; and, looking round, you may see how the little tired, flushed cheek has toppled over half the brute creation on its way into the ark; or how one little dimpled arm has mowed down (as I saw myself) the whole tin soldiery of Europe. On the walls of these rooms are graceful, pleasant, bright childish pictures. At the beds' heads are pictures of the figure which is the universal embodiment of all mercy and compassion, the figure of Him who was once a child himself, and a poor one. Besides these little creatures on the beds, you may learn in that place that the number of small out-patients brought to that house for relief is no fewer than ten thousand in the compass of one single year. In the room in which these are received you may see against the wall a box on which it is written that it has been calculated that if every grateful mother who brings a child there will drop a penny into it, the hospital funds may possibly be increased in a year by so large a sum as forty pounds. And you may read in the hospital report, with a glow of pleasure, that these poor women are so respondent as to have made, even in a toiling year of difficulty and high prices, this estimated forty, fifty pounds. In the printed papers of this same hospital, you may read with what a generous earnestness the highest and wisest members of the medical profession testify to the great need of it; to the immense difficulty of treating children in the same hospitals with grown-up people, by reason of their different ailments and requirements; to the vast amount of pain that will be assuaged, and of life that will be saved, through this hospital; not only among the poor, observe, but among the prosperous too, by reason of the increased knowledge of children's illnesses, which cannot fail to arise from a more systematic mode of studying them. Lastly, gentlemen, and, I am sorry to say, worst of all (for I must present no rose-colored picture of this place to you—I must not deceive you), lastly, the visitor to this children's hospital, reckoning up the number of its beds, will find himself perforce obliged to stop at very little over thirty, and will learn, with sorrow and surprise, that even that small number, so forlornly, so miserably diminutive compared with this vast London, cannot possibly be maintained unless the hospital be made better known; I limit myself to saying better known, because I will not believe that in a Christian community of fathers and mothers, and brothers and sisters, it can fail, being better known, to be well and richly endowed.

"Now, ladies and gentlemen, this without a word of adornment—which I resolved when I got up not to allow myself—this is the simple case. This is the pathetic case which I have put out to you; not only on behalf of the thousands of children who annually die in this great city, but also on behalf of the thousands of children who live half developed, racked with preventable pain, shorn of their natural capacity for health and enjoyment. If these innocent creatures cannot move you for themselves, how can I possibly hope to move you in their name? The most delightful paper, the most charming essay, which the tender imagination of Charles Lamb conceived, represents him as sitting by his fireside on a winter night telling stories to his own dear children, and delighting in their

society, until he suddenly comes to his old, solitary, bachelor self, and finds that they were but dream children, who might have been, but never were. 'We are nothing,' they say to him; 'less than nothing, and dreams. We are only what might have been, and we must wait on the tedious shore of Lethe, millions of ages, before we have existence and a name.' And immediately awaking, he says, 'I found myself in my armchair.' The dream-children whom I would not raise, if I could, before every one of you, according to your various circumstances, should be the dear child you love, the dearer child you have lost, the child you might have had, the child you certainly have been. Each of these dream-children should hold in its powerful hand one of the little children now lying in the child's hospital, or now shut out of it to perish. Each of these dream-children should say to you, 'Oh, help this little suppliant in my name; oh, help it for my sake!' Well!—and immediately awaking, you should find yourselves in the Freemasons' Hall, happily arrived at the end of a rather long speech, drinking 'Prosperity to the Hospital for Sick Children,' and thoroughly resolved that it shall flourish."

DEFECTIVE DELINQUENTS—PRISON REFORMS.

National Prison Association and Associated Bodies in Many States Are Recognizing That Forty Percent of Offenders Are Abnormal—Some Details of Rescue and Remedial Work.

BY OUR NEW YORK CORRESPONDENT.

Penologists, alienists, and investigators engaged in penal work have recognized for over fifty years that a large proportion of the inmates of our prisons and correctional institutions were defective delinquents. The real extent and significance of this fact has in late years become more widely appreciated, and a new "state of mind" is rapidly developing. Today our police departments, judges, and a large part of the public look on these institutions as emergency hospitals and sanitariums for the treatment of mental and moral defectives requiring special medical and surgical attention.

Dr. F. L. Christian, in a paper read at the "Capital District Conference of Charities," March 11, 1913, states that, if modern psychological tests were applied, over 40 percent of the criminals in our state prisons would be found mentally abnormal.

The defective delinquent in our prisons today presents a "distinct type"—the product of heredity, of environment, or both. The history is of a dull, backward childhood; generally, a truant at school, he is sent home because of misconduct, commits some petty offense, and finds himself in the House of Refuge or some similar institution. Released on parole to his family, he again relapses, and for some graver offense is arrested and sent to the Reformatory.

The majority of this class are ill-nourished and rachitic; 20 percent are tubercular, 40 percent are addicted to alcohol, 39 percent have serious venereal disease, and 75 percent smoke cigarettes to excess. Morphine, heroin, and cocaine complicate the problem of dealing with these defectives. Dr. Katherine Davis, commissioner of correction, in her present fight to eliminate the "dope habit" from the New York City prisons and jails, has uncovered some strange, ingenious methods devised to supply inmates with drugs. The wife of a prisoner brings him stiffly starched shirts, and the moment he is alone he eagerly chews them, thus obtaining the morphine with which the starch is impregnated. Another visit brings him an orange, and the avidity and greediness displayed in its consumption lead to an investigation. The juice has been withdrawn, transformed into a saturated solution of cocaine, and again replaced through the medium of a hypodermic syringe. Fountain pens were debarred because

some were found with their barrels filled with drug tablets.

The first impetus toward prison reform was given in the latter part of the eighteenth century by John Howard, the great English prison reformer. This resulted only in rendering prison conditions in the United States a little less intolerable, and the first step in real progress was not taken until 1824, the date of the building of the "House of Refuge" in New York City. The establishment of the "House of Refuge" marks the beginning of the reformatory system. In 1876 "Elmira Reformatory" was opened to separate young men, between 16 and 30, from the convicts in the state prisons, as the "House of Refuge" had withdrawn young children from the prisons and jails. Today the scope of reform has been widened to cover not only the child and "juvenile adult," but all prisoners.

One of the most potent factors in this field has been, and still is, the Prison Association of New York. This association cooperates with the National Prison Association and the different state and local societies for the protection of society against crime, the reformation of the criminal, and the protection of those unjustly accused.

We cannot here present a detailed report of the varied activities of the Prison Association, nor the comprehensive program of prison reform for which it is striving; but let us enter, for a moment only, No. 135 East Fifteenth street, the Prison Association Building. It is 9 a. m., and the pleasant library, used as a waiting room, is occupied by well-dressed men, whom no one would suspect to be "convicted felons." Several are just down from one of the state prisons, released on parole to the Prison Association, and waiting to report to the "parole agent" and receive directions regarding employment. They still have a portion of the \$10 received at the prison gates, and, with a hearty handshake and assurance of continued sympathy and assistance from the "parole agent," they again enter the world of work. Across the corridor a sad-faced woman is telling her pitiful story to the "relief agent" of the association. This agent, a large-hearted woman, learns that another breadwinner has been "sent up the river," and explains to the poor, unfortunate mother that she will take immediate steps to aid in keeping the family together. The efficient general secretary, Dr. O. F. Lewis, is at his desk, attending to the morning's mail containing requests for information regarding indeterminate sentence, the parole system, the treatment of prisoners, etc., and questions such as, "Why does not the state purchase a farm and train its prisoners to be farm hands?" Perhaps a letter from abroad informs him that a foreign commission is to make a two-months' tour of American correctional institutions, and desires an itinerary and his company if it can be arranged.

In another room the two "probation officers" of the Prison Association are busy preparing their reports for judges in the Court of General Sessions.

That there is need of these prison associations for the betterment of prison conditions, and for the assistance of prisoners, there is not the slightest doubt. With the new awakening—testified to by the thousands of organizations devoted to charitable purposes listed in the "Charities Directory" of New York alone—the old regime of exploitation through contract labor, ostracism from society through prison sentence, brutality through prison abuses, illness and death through wretched sanitation, lack of proper medical care and unnatural primitive modes of prison life, is rapidly disappearing.

The Springfield (Ill.) Hospital plans the erection of a \$20,000 addition.